

THE
EDINBURGH SCHOOL
OF
MEDICINE;

CONTAINING THE
PRELIMINARY OR FUNDAMENTAL BRANCHES
OF
PROFESSIONAL EDUCATION,

VIZ.
ANATOMY, MEDICAL CHEMISTRY, AND
BOTANY.

Intended as an
INTRODUCTION TO THE CLINICAL GUIDE.
THE WHOLE FORMING A COMPLETE SYSTEM OF MEDICAL
EDUCATION AND PRACTICE ACCORDING TO THE
ARRANGEMENT OF THE EDINBURGH SCHOOL.

BY WILLIAM NISBET, M.D.
FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF
EDINBURGH, &c.

IN FOUR VOLUMES.

VOL. IV.

LONDON:

Printed for T. N. LONGMAN and O. REES, Paternoster-Row.

1802.

**Printed by A. Strahan,
Printers-Street, London.**

THE
BOTANICAL GUIDE;
OR, THE
PRINCIPLES
OF
BOTANICAL PHILOSOPHY AND
ARRANGEMENT,
COMPRISED UNDER THE HEADS
OF
ANATOMY, || CLASSIFICATION, AND
VEGETATION, || MATERIA MEDICA.

TO
DR. J. C. LETTSOM,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS
OF LONDON AND EDINBURGH, &c.

EQUALLY DISTINGUISHED
FOR HIS KNOWLEDGE OF BOTANY,
AND HIS
ZEAL FOR ITS IMPROVEMENT;
THIS WORK,
THAT CONTAINS
THE PHILOSOPHY AND PRINCIPLES
OF A SCIENCE
WHICH FORMS THE FOUNDATION OF THE
HEALING ART,
IS ADDRESSED
BY
THE AUTHOR.



P R E F A C E.

THE subject of BOTANY is one which, of late, has become highly popular. To the Physician it is of the first importance; for, by a knowledge of it, he is enabled to determine, in many cases, the general qualities of plants by bare inspection. In the present volume it has been the object, along with BOTANY itself, to comprize the different subjects connected with it. The Anatomy of Vegetables is first detailed, in order that the leading parts of the Vegetable Structure may be first understood. The Principles of Vegetation, as affecting this Structure, and influencing its growth and qualities, are next detailed. The description of the Linnæan System, and the selection of the Termini Botanici by the late Dr. Hope then follows; and, last of all, the Materia Medica of the Vegetable System is pro-

fecuted on the plan of the Linnæan Arrangement, the generic character being given under the articles. It appeared unnecessary to descend more minutely, or to detail the characters of the species, which would have rendered this work too prelix, and which its limits would not have admitted.

C O N T E N T S.

I	INTRODUCTION,	<i>Page 1</i>
PART I. GENERAL VIEW OF THE VEGETABLE		
STRUCTURE.		
Of the Trunk,		3
Bark,		4
Its Divisions.		
Epidermis, or Cuticle,		<i>ib.</i>
Uses of ditto,		<i>ib.</i>
Parenchyma,		5
Cortical Layers,		<i>ib.</i>
General Use of the Bark,		6
The Wood,		<i>ib.</i>
Its Divisions.		
Alburnum,		6
Proper Wood,		7
General Uses of the Wood,		8
Corona,		<i>ib.</i>
The Pith, or Medulla,		<i>ib.</i>
Uses of the Medulla,		9
The Branches,		<i>ib.</i>
The Root,		<i>ib.</i>

Uses of the Root, . . .	Page 10
The Leaves, . . .	<i>ib.</i>
Uses of the Leaves, . . .	11
The Flower, . . .	<i>ib.</i>
Parts of the Flower, . . .	12
Calyx, . . .	<i>ib.</i>
Corolla, . . .	<i>ib.</i>
Stamina, including the Flowerets and the Pistillum, . . .	13
The Seed, or Produce of the Flower, . . .	14
Parts of the Seeds, . . .	<i>ib.</i>
Covers, . . .	<i>ib.</i>
Cotyledons or Lobes, . . .	<i>ib.</i>
Young Plant, or Embryo, . . .	15
1. Particular Detail of the Vegetable Structure, or a minute Examination of its Parts, . . .	<i>ib.</i>
Vascular System of Vegetables, . . .	<i>ib.</i>
Vascular Contents of Vegetables, . . .	16
Progress of Vegetation, . . .	17
General Circumstances necessary to Vegetation, . . .	18
Influence of these Circumstances on the Evolu- tion of the Seed, . . .	19
Manner of its Evolution, . . .	20
Nourishment of Plants, . . .	21
Effect of Soil, . . .	<i>ib.</i>
Difference of Soils, . . .	22
Circumstances varying the Nature of the Soil, <i>ib.</i>	
Effect of Manures on Soil, . . .	24

CONTENTS.

xi

State of Vegetable Nourishment drawn from the Soil,	Page <i>ib.</i>
Medium by which it is drawn,	25
Progress of the Nourishment, or Sap, when introduced,	<i>ib.</i>
Chemical Analysis of it,	26
Power by which it is carried on, or the Irritability of the Vegetable Vessels,	27
Peculiar Juice of Vegetables,	<i>ib.</i>
Changes introduced on the Sap in the Leaves,	28
Various Functions of the Leaves,	29
Introduction of Carbonic Acid through this Medium,	30
Of Oxygen through the same,	31
Of Water through ditto,	32
2. Particular Detail of the Vegetable Economy.	
Vegetable Absorption,	35
Its Nature, and as forming the Mode of Vegetable Nourishment,	41
Vegetable Growth,	43
Progress in different Parts of the same Vegetable,	<i>ib.</i>
In different Vegetables,	45
Vegetable Secretion,	47
Transpiration,	48
Respiration,	51
Circulation,	54
Temperature,	55
Sensibility,	57

Vegetable Sleep,	Page 59
Decay,	63
Reproduction,	65
Natural, by Semination, . .	66
Artificial, by Gems, Layers, and Grafts,	<i>ib.</i>
Classification of Vegetables,	<i>ib.</i>
Introductory Observations on the Organs of Taste and Smell,	67
Various Sensations of Taste,	68
Simple,	<i>ib.</i>
Compound,	<i>ib.</i>
Diversity of Smell,	69
Mode of applying Vegetables, for Examination, to these two Senses,	<i>ib.</i>

PART II. CLASSIFICATION.

Compendium of Botanical Language, or Arrange- ment, as contained in the Termini Botanici of Linnæus,	71—134
Review of the Principal, or Leading Parts of this Arrangement,	134—148
Particular Enumeration of the Sexual Parts of Vegetables,	148
Sexual Functions of ditto,	149
Marriage of Plants,	150
Facts that support it,	151
Different Modes of effecting Fecundation,	152
Fecundation of the Seed,	154
Generation of the Hybride Plant,	155
Parturition of Plants,	156

CONTENTS.

xiii

Analogy between Vegetables and Animals, <i>Page</i>	158
General Principles of both, . . .	<i>ib.</i>
First Appearances of both, . . .	159
Mode of Nutrition of both, . . .	160
Progress of Growth in both, . . .	<i>ib.</i>
Linnæan Arrangement, . . .	162
Table of Classes, . . .	<i>ib.</i>
General Observations on the Classes, Orders, and Genera, . . .	162—165

PART III. MATERIA MEDICA.

Detail of the Medical Articles of each Class, with the particular Order and generic Character of the Article, . . .	165
---	-----

CLASS I. MONANDRIA.

Order I. Monogynia..

Amomum Zinziber, . . .	<i>ib.</i>
Cardamomum, . . .	166
Granum Paradisi, . . .	167
Costus Arabicus, . . .	<i>ib.</i>
Maranta Galanga, . . .	168
Curcuma Longa, . . .	<i>ib.</i>
Kemferia Rotunda, . . .	169

CLASS II. DIANDRIA.

Order I. Monogynia..

Jasminum Officinale, . . .	170
Olea Europæa, . . .	<i>ib.</i>
Veronica Officinalis, . . .	171
Buccabunga, . . .	<i>ib.</i>
Gratiola Officinalis, . . .	<i>ib.</i>

Verbena Officinalis,	.	.	<i>Page</i> 172
Monorda Fistulosa,	.	.	<i>ib.</i>
Rosmarinus Officinalis,	.	.	<i>ib.</i>
Salvia Hortensis,	.	.	173
Horminum,	.	.	<i>ib.</i>
Sclarea,	.	.	174
Collinsonia Canadensis,	.	.	<i>ib.</i>
Order II. Digynia.			
Order III. Trigynia.			
Piper Nigrum,	.	.	<i>ib.</i>
Longum,	.	.	157
Cubeba,	.	.	<i>ib.</i>
CLASS III. TRIANDRIA.			
Order I. Monogynia.			
Valeriana Officinalis,	.	.	176
Phu,	.	.	<i>ib.</i>
Celtica,	.	.	<i>ib.</i>
Tamarindus,	.	.	177
Crocus,	.	.	<i>ib.</i>
Iris Florentina,	.	.	178
Fœtida,	.	.	<i>ib.</i>
Germanica,	.	.	<i>ib.</i>
Pseudacofus,	.	.	179
Gladiolus Communis,	.	.	<i>ib.</i>
Cyperus Longus,	.	.	<i>ib.</i>
Rotundus,	.	.	<i>ib.</i>
Order II. Digynia.			
Saccharum Officinarum,	.	.	180
Avena Sativa,	.	.	<i>ib.</i>
Secale Cereale,	.	.	181

CONTENTS.

xv

Hordium Distichon,	Page 181
Triticum Hybernum,	ib.
Repens,	182

CLASS IV. TETRANDRIA.

Order I. Monogynia.

Asperula Odorata,	ib.
Galium Verum,	183
Aparine,	ib.
Rubia Tinctorum,	ib.
Penaea Sarcocolla,	184
Plantago Major,	ib.
Pfyllum,	ib.
Sanguisorba Officinalis,	185
Bankica Abyssinica,	ib.
Dracontenica Controverva,	ib.
Camphorosma Monspeliensis,	186
Santolum Album,	ib.
Alchemilla Vulgaris,	ib.

Order II. Digynia.

Cuscuta Europæa,	187
------------------	-----

Order III. Tetragynia.

Ilex Aquifolium,	ib.
Cassine,	188

CLASS V. PENTANDRIA.

Order I. Monogynia.

Lithospermium Officinale,	ib.
Anchusa Officinalis,	ib.
Tinctoria,	189
Cynoglossum Officinale,	ib.

Pulmonaria Officinalis,	.	.	Page 189
Symphytum Officinale,	.	.	<i>ib.</i>
Plumbago Europea,	.	.	190
Cyclamen Europeum,	.	.	<i>ib.</i>
Menyanthes Trifoliata,	.	.	<i>ib.</i>
Lyfimachia Numularia,	.	.	191
Anagallis Arvensis,	.	.	<i>ib.</i>
Spigelia Anthelmia,	.	.	192
Morilandica,	.	.	<i>ib.</i>
Ophiorriza Mungos,	.	.	<i>ib.</i>
Convolvulus Jalappa,	.	.	<i>ib.</i>
Scammonia,	.	.	193
Cinchona Officinalis,	.	.	<i>ib.</i>
Caribbea,	.	.	194
Angustifolia,	.	.	<i>ib.</i>
Corymbifera,	.	.	<i>ib.</i>
Floribunda,	.	.	195
Montana,	.	.	<i>ib.</i>
Tecamez,	.	.	<i>ib.</i>
Coffea Arabica,	.	.	<i>ib.</i>
Psychotria Emetica,	.	.	196
Lonicera Diervilla,	.	.	<i>ib.</i>
Symphorecarpus,	.	.	197
Verbascum Thapsus,	.	.	<i>ib.</i>
Datura Stramonium,	.	.	<i>ib.</i>
Hyoscyamus Albus,	.	.	198
Niger,	.	.	<i>ib.</i>
Nicotiana Tabaccum,	.	.	<i>ib.</i>
Atropa Mandragora,	.	.	199

CONTENTS.

xvii

Atropa Belladona,	<i>Page</i> 199
Physalis Alkekengi,	200
Solanum Dulcamara,	<i>ib.</i>
Nigrum,	201
Capficum Annuum,	<i>ib.</i>
Baccatum,	<i>ib.</i>
Strychnos Nux Vomica,	<i>ib.</i>
Volubilis,	202
Cordia Myxa,	<i>ib.</i>
Rhamnus Catharticus,	<i>ib.</i>
Frangula,	203
Ziziphus,	<i>ib.</i>
Ceanothus Americanus,	<i>ib.</i>
Vitis Vinifera,	204
Lagœcia Cuminoïdes,	<i>ib.</i>
Nerium Antidysentericum,	<i>ib.</i>
Echites,	205
Plumeria,	<i>ib.</i>
Vinca Minor,	<i>ib.</i>
Ribes Rubrum,	<i>ib.</i>
Nigrum,	206
Hedera Helix,	<i>ib.</i>
Order II. Digynia.	
Asclepias Vincetoxicum,	<i>ib.</i>
Gentiana Lutea,	207
Purpurea,	<i>ib.</i>
Centaureum,	<i>ib.</i>
Chenopodium Ambrosioides,	<i>ib.</i>
Anthelminthicum,	208

Chenopodium Vulvaria,	Page 208
Salsola,	ib.
Ulmus Campestris,	ib.
Eryngium,	209
Sanicula Europea,	ib.
Damens Carota,	ib.
Conium Maculatum,	210
Ferula Afa Foetida,	ib.
Laserpitium Siler,	211
Angelica Archangelica,	ib.
Sylvestris,	ib.
Sium Nissi,	212
Nodiflorum,	ib.
Sison Amomum,	ib.
Bubon Macedonicum,	ib.
Galbanum,	213
Cuminum,	ib.
Philandrium Aquaticum,	ib.
Cicuta Virofa,	214
Æthusa Meum,	ib.
Coriandrum Sativum,	ib.
Imperatoria Ostuthium,	215
Pastinaca Opopanax,	ib.
Anethum Graveolens,	ib.
Fœniculum,	216
Carum Carvi,	ib.
Pimpinella Saxifraga,	217
Anisum,	ib.
Apium Petroselinum,	ib.

CONTENTS.

xix

Apium Graveolens, Page 218

Order III. Trigynia.

Rhus Corinaria, *ib.*

Cassine Peragua, *ib.*

Sambucus Ebulus, 219

Nigra, *ib.*

Tamarix Gallica, *ib.*

Order IV. Tetragynia.

Order V. Pentagynia.

Linum Usitatissimum, 220

Catharticum, *ib.*

CLASS VI. HEXANDRIA.

Order. I. Monogynia.

Bromelia Ananas, 221

Allium, *ib.*

Sativum, 222

Lilium Candidum, *ib.*

Scilla Maritima, *ib.*

Asparagus Officinalis, 223

Dracena Draco, *ib.*

Aloe, 224

Acorus, *ib.*

Order II. Digynia, *ib.*

Oryza, 225

Order III. Trigynia, *ib.*

Rumex Acetosa, *ib.*

Acutus, *ib.*

Alpinus, 226

Hydrolapathus, *ib.*

Rumex Sanguineus,	.	.	Page 226.
Scutatus,	.	.	<i>ib.</i>
Colchium Autumnale,	.	.	<i>ib.</i>
Orders IV. & V. Tetragnia & Polygnia,			227

CLASS VII. HEPTANDRIA.

Æsculus Hypocastanum,	.	.	<i>ib.</i>
-----------------------	---	---	------------

CLASS VIII. OCTANDRIA.

Order I. Monogynia.

Trapæolum Majus,	.	.	228
Amyfis Elemifera,	.	.	<i>ib.</i>
Gileadenfis,	.	.	<i>ib.</i>
Zeylandia,	.	.	<i>ib.</i>
Vaccinium Myrtillus,	.	.	<i>ib.</i>
Vitis Idæa,	.	.	229
Oxycocco,	.	.	<i>ib.</i>
Daphne Mezereum,	.	.	<i>ib.</i>
Laureola,	.	.	<i>ib.</i>

Order II. Digynia.

Order III. Trigynia.

Polygonum Bistorta,	.	.	230.
---------------------	---	---	------

Order IV. Tetragynia.

Paris Quadrifolia,	.	.	<i>ib.</i>
--------------------	---	---	------------

CLASS IX. ENNEANDRIA.

Order I. Monogynia.

Laurus Cinnamomum,	.	.	231
Cassia,	.	.	<i>ib.</i>
Cutilanus,	.	.	232
Myrrha,	.	.	<i>ib.</i>
Nobilis,	.	.	<i>ib.</i>

CONTENTS.

xxi

Laurus Pecunia,	.	.	<i>Page</i> 233
Sassafras,	.	.	<i>ib.</i>
Anacardium Occidentale,	.	.	<i>ib.</i>

Order II. Trigynia.

Rheum Palmatum,	.	.	234
Rhaponticum,	.	.	<i>ib.</i>
Undulatum,	.	.	235

CLASS X. DECANDRIA.

Order I. Monogynia.

Hymenæa Camboril,	.	.	<i>ib.</i>
Cassia Fistula,	.	.	<i>ib.</i>
Senna,	.	.	236
Myroxylon Peruiferum,	.	.	<i>ib.</i>
Guaiacum Officinale,	.	.	<i>ib.</i>
Dictamnus Albus,	.	.	237
Ruta Graveolens,	.	.	<i>ib.</i>
Toluifera Balsamum,	.	.	238
Hæmatoxylum Campechianum,	.	.	<i>ib.</i>
Sinutinia Mahogani,	.	.	239
Quassia Amara,	.	.	<i>ib.</i>
Simaruba,	.	.	<i>ib.</i>
Ledum Palustre,	.	.	240
Rhododendron Crysantheum,	.	.	<i>ib.</i>
Arbutus Uva Ursi,	.	.	241
Styrax Officinalis,	.	.	<i>ib.</i>
Benzoin,	.	.	<i>ib.</i>
Copaifera Officinalis,	.	.	242

Order II. Digynia.

Saponaria Officinalis,	.	.	243
-------------------------------	---	---	-----

Orders III. IV. & V. Trigynia, Tetragynia, &
Pentagynia.

Sedum Acre, Page 243

Oxalis Acetocella, 244

Order IV, Decagynia.

Phytolacca Decandra, *ib.*

CLASS XI. DODECANDRIA.

Order I. Monogynia.

Afarum Europæum, 245

Winterana Canella, *ib.*

Lythrum Salicaria. 246

Garcinia Mangostana, *ib.*

Order II. Digynia.

Agrimonia Eupatoria, *ib.*

Order III. Trigynia.

Euphorbia Officinalis, 247

Lathysis, *ib.*

Palustris, *ib.*

Hirsuta, *ib.*

Canescens, *ib.*

Perviflora, *ib.*

Order III. Dodecagynia.

Sempervivum Tectorum, *ib.*

CLASS XII. ICOSANDRIA.

Order I. Monogynia.

Cactus Opuntia, 248

Myrtus Communis, *ib.*

Carophyllatus, 249

Pimenta, *ib.*

CONTENTS.

xxiii

Punica Granatum,	Page 249
Amygdalus Communis,	250
Perfica,	<i>ib.</i>
Prunus Avium,	<i>ib.</i>
Cerasus,	<i>ib.</i>
Domestica,	251
Lauracerasus,	<i>ib.</i>
Padus,	<i>ib.</i>
Spinosa,	<i>ib.</i>
Order III. Trigynia.	
Sorbus Aucuparia,	252
Domestica,	<i>ib.</i>
Order IV. Pentagynia.	
Mesembryanthemum Crystallinum,	<i>ib.</i>
Pyrus Communis,	253
Cydonia,	<i>ib.</i>
Malus,	<i>ib.</i>
Spiræa Filipendula,	<i>ib.</i>
Ulmaria,	254
Order IV. Polygynia.	
Rosa Canina,	<i>ib.</i>
Gallica,	<i>ib.</i>
Damascena,	255
Rubus Idæus,	<i>ib.</i>
Chamænosus,	<i>ib.</i>
Fragaria Vesca,	<i>ib.</i>
Potentilla Anserina,	256
Tormentilla Erecta,	<i>ib.</i>
Geum Rivale,	<i>ib.</i>

Geum Urbanum,	<i>Page</i> 257
----------------------	-----------------

CLASS XIII. POLYANDRIA.**Order I. Monogynia.**

Capparis Spinosa,	<i>ib.</i>
Chelidonium Majus,	258
Papaver Rhæas,	<i>ib.</i>
Somniferum,	<i>ib.</i>
Gambogia,	259
Caryophyllus Aromaticus,	260
Tilia Europea,	<i>ib.</i>
Myristica Aromatica,	261
Cistus Creticus,	<i>ib.</i>
Thea Bohea,	<i>ib.</i>
Viridis,	262
Bixa Orellana,	<i>ib.</i>

Order II. Digynia.

Pæonia Officinalis,	<i>ib.</i>
----------------------------	------------

Order III. Trigynia.

Delphinium Staphisagria,	263
Aconitum Anthora,	<i>ib.</i>
Cammarum,	<i>ib.</i>
Napellus,	<i>ib.</i>

Order IV. Tetragynia.

Cimicifuga Fœtida,	264
---------------------------	-----

Order V. Pentagynia.

Aquilegia Vulgaris,	<i>ib.</i>
Nigella Sativa,	<i>ib.</i>

Order VI. Polygynia.

Illicium Anisatum,	265
---------------------------	-----

CONTENTS.

xxv

Anemone Hepatica,	.	.	<i>Page</i> 265
Nemorosa,	.	.	266
Pratensis,	.	.	<i>ib.</i>
Clematis Recta,	.	.	<i>ib.</i>
Vitalba,	.	.	267
Ranunculus Abortivus,	.	.	<i>ib.</i>
Flammula,	.	.	<i>ib.</i>
Ficaria,	.	.	268
Heleborus Foetidus.	.	.	<i>ib.</i>
Niger,	.	.	<i>ib.</i>
Viridis,	.	.	269

CLASS XIV. DIDYNAMIA.

Order I. Gymnospermia.

Teucrium Chamydrys,	.	.	<i>ib.</i>
Chamæpitys,	.	.	<i>ib.</i>
Creticum,	.	.	270
Marum,	.	.	<i>ib.</i>
Scordium,	.	.	<i>ib.</i>
Satureja Hortensis,	.	.	271
Hyssopus Hortensis,	.	.	<i>ib.</i>
Nepeta Cataria,	.	.	<i>ib.</i>
Lavandula Spica,	.	.	272
Mentha Auricularis,	.	.	<i>ib.</i>
Cervina,	.	.	<i>ib.</i>
Crispa,	.	.	<i>ib.</i>
Piperita,	.	.	273
Pulegium,	.	.	<i>ib.</i>
Viridis,	.	.	<i>ib.</i>
Glecoma Hederacea,	.	.	<i>ib.</i>

Betonica Officinalis,	.	.	<i>Page</i> 274
Marrubium Vulgare,	.	.	<i>ib.</i>
Origanum Creticum,	.	.	<i>ib.</i>
Dictamnus,	.	.	275
Marjorana,	.	.	<i>ib.</i>
Vulgare,	.	.	<i>ib.</i>
Thymus Serpyllum,	.	.	276
Vulgaris,	.	.	<i>ib.</i>
Melissa Calamintha,	.	.	<i>ib.</i>
Officinalis,	.	.	<i>ib.</i>
Melitis Melissophyllum,	.	.	277
Ocimum Basilicum,	.	.	<i>ib.</i>

Order II. Angiosperma.

Anthirrinum Linaria,	.	.	<i>ib.</i>
Scrophularia Aquatica,	.	.	278
Nodosa,	.	.	<i>ib.</i>
Digitalis Purpurea,	.	.	<i>ib.</i>
Linnaea Borealis,	.	.	279
Sesamum Orientale,	.	.	<i>ib.</i>
Avicennia Tomentosa.	.	.	<i>ib.</i>
Bignonia Ophthalmica,	.	.	280

CLASS XV. TETRADYNAMIA.

Order I. Siliculosa.

Lepidium Sativum,	.	.	<i>ib.</i>
Cochlearia Armoracia,	.	.	281
Officinalis,	.	.	<i>ib.</i>

Order II. Siliquosa.

Raphanus Sativus,	.	.	282
Erysimum Alliaria,	.	.	<i>ib.</i>

CONTENTS.

xxvii

<i>Erysimum Barbarea,</i>	Page 282
<i>Chieranthus Cheiri,</i>	<i>ib.</i>
<i>Brassica Oleracea,</i>	283
<i>Eruca,</i>	<i>ib.</i>
<i>Rapa,</i>	<i>ib.</i>
<i>Cardamine Pratensis,</i>	284
<i>Sisymbrium Nasturtium,</i>	<i>ib.</i>
<i>Sophia,</i>	<i>ib.</i>
<i>Tenuifolium,</i>	<i>ib.</i>
<i>Sinapis Alba,</i>	285
<i>Nigra,</i>	<i>ib.</i>
<i>Crambe Orientalis,</i>	<i>ib.</i>

CLASS XVI. MONADELPHIA.

Order I. Decandria.

<i>Geranium Moschatum,</i>	286
<i>Robertianum,</i>	<i>ib.</i>

Order II. Dodecandria.

<i>Pentapetes Muhucanda,</i>	<i>ib.</i>
------------------------------	------------

Order III. Polyandria.

<i>Althea Officinalis,</i>	287
<i>Alcea Rosea,</i>	<i>ib.</i>
<i>Malva Rotundifolia,</i>	288
<i>Hibiscus Abelmoschus,</i>	<i>ib.</i>

CLASS XVII. DIADELPHIA.

Order I. Hexandria.

<i>Fumaria Officinalis,</i>	<i>ib.</i>
-----------------------------	------------

Order II. Octandria.

<i>Polygala Amara,</i>	289
<i>Senega,</i>	<i>ib.</i>

Order III. Decandria.

Pterocarpus Draco,	.	.	Page 290
Santalinus,	.	.	ib.
Spartium Scoparium,	.	.	ib.
Genista Canariensis,	.	.	291
Tinctoria,	.	.	ib.
Ononis Arvensis et Spinosa,	.	.	ib.
Dolichos Ureno,	.	.	292
Pruriens,	.	.	ib.
Vicia Faba,	.	.	ib.
Glycyrrhiza Glabra	}	.	ib.
Echinata		.	
Geoffrœa Inermis,	.	.	293
Surinamensis,	.	.	ib.
Indigofera Tinctoria,	.	.	ib.
Astragalus Excapus,	.	.	ib.
Tragacantha,	.	.	294
Trifolium Melilotus,	.	.	ib.
Repens,	.	.	ib.
Trigonella Fœnum-Græcum,	.	.	ib.

CLASS XVIII. POLYADELPHIA.

Order I. Pentandria.

Theobroma Cacao,	.	.	295
------------------	---	---	-----

Order II. Icosandria.

Citrus Medica,	.	.	296
Aurantium,	.	.	ib.

Order III. Polyandria.

Melaleuca Leucadendron,	.	.	297
Hypericum Perforatum,	.	.	ib.

CONTENTS.

xxix

CLASS XIX. SYNGENESIA.

Order I. Polygamia.

Tragopogon Pratenſe,	Page 298
Lactuca Sativa,	ib.
Vioſa,	ib.
Leontodon Taraxacum,	299
Hieracium Piſoſella,	ib.
Cichorium Intybus,	ib.
Endivia,	300
Arctium Lappa,	ib.
Carduus Marianus,	ib.
Onopordon Acanthum,	ib.
Cinara Scolymus,	301
Carlina Acaulis,	ib.
Carthamus Tinctorius,	ib.
Spilanthus Acmella,	302
Eupatorium Cannabinum,	ib.
Santolina Chamæcypariſus,	ib.

Order II.

Tanacetum Vulgare,	303
Balfamita,	ib.
Artemiſia Abrotanum,	ib.
Abſinthium,	304
Campeſtris,	ib.
Dracunculus,	ib.
Glacialis,	ib.
Maritima,	ib.
Pontica,	ib.
Rupeſtris,	ib.

Artemisia Santonica,	.	.	.	<i>Page</i> 305
Vulgaris,	.	.	.	<i>ib.</i>
Erigeron Acre,	.	.	.	<i>ib.</i>
Tussilago Farfara,	.	.	.	<i>ib.</i>
Petasites,	.	.	.	306
Senecio Vulgaris,	.	.	.	<i>ib.</i>
Solidago Virga Aurea,	.	.	.	<i>ib.</i>
Inula Helenium,	.	.	.	307
Dysenterica,	.	.	.	<i>ib.</i>
Arnica Montana,	.	.	.	<i>ib.</i>
Doronicum Latifolium,	.	.	.	308
Matricaria Chamomilla,	.	.	.	<i>ib.</i>
Parthenium,	.	.	.	309
Anthemis Catula,	.	.	.	<i>ib.</i>
Nobilis,	.	.	.	<i>ib.</i>
Pyrethrum,	.	.	.	<i>ib.</i>
Achillea Ageratum,	.	.	.	310
Atrota,	.	.	.	<i>ib.</i>
Millifolium,	.	.	.	<i>ib.</i>
Ptarmica,	.	.	.	<i>ib.</i>
Sigesbeckia Orientalis,	.	.	.	311

Order III.

Centaurea Behen,	.	.	.	<i>ib.</i>
Benedicta,	.	.	.	<i>ib.</i>
Calcitrappa,	.	.	.	312
Cynamus,	.	.	.	<i>ib.</i>

Order IV.

Calendula Officinalis,	.	.	.	<i>ib.</i>
-------------------------------	---	---	---	------------

CONTENTS.

xxi

Order V. Monogynia.

Lobelia Siphylitica,	Page 313
Longiflora,	ib.
Tupa,	ib.
Viola Canina,	ib.
Ipecacuhana,	ib.
Odorata,	ib.
Tricolor,	314

CLASS XX. GYNANDRIA.

Order I. Diandria.

Orchis	}	ib.
Mascula		
Militaris		
Morio		
Epidendrum Vanilla,		315

Order II. Hexandria.

Aristolochia Clematitis,	ib.
Longa et Rotunda,	ib.
Serpentaria,	316
Trilobata,	ib.

Order III. Dodecandria.

Cytinus Hypocystis,	ib.
----------------------------	-----

Order IV. Polyandria.

Arum Maculatum,	317
Zostera Marina,	ib.

CLASS XXI. MONOECIA.

Order I. Monandria.

Cynomorium Coccinium,	318
------------------------------	-----

Order II. Triandria.

Carex Arenaria,	ib.
------------------------	-----

Phyllanthus Emblica,	Page 319
----------------------	----------

Order III. Tetrandria.

Betula Alba,	ib.
Buxus Sempervirens,	ib.
Urtica Dioica,	320
Pilulifera,	ib.
Urens,	ib.
Morus Nigra,	321

Order IV. Pentandria.

Xanthium Strumarium,	ib.
----------------------	-----

Order V. Polyandria.

Poterium Sanguisorba,	322
Quercus Robur,	ib.
Cerris,	ib.
Suber,	323
Juglans Regia,	ib.
Corylus Arillana,	ib.
Liquidambar Styraciflua,	324

Order VI. Monodelphia.

Pinus Abies,	ib.
Balsamica,	325
Canadensis,	ib.
Cembra,	ib.
Larix,	ib.
Munchos,	ib.
Pinca,	ib.
Picea,	326
Sylvestris,	ib.
Thuya Occidentalis,	ib.

CONTENTS.

xxxiii

Croton Cascarilla,	Page 327
Lactiferum,	ib.
Jatropha Elastica,	328
Manihot,	ib.
Ricinus Communis,	ib.

Order VII. Syngenesia.

Momordica Elaterium,	329
Cucumis Colocynthis,	ib.
Melo,	230
Sativus,	ib.
Cucurbita Lagenaria,	ib.
Pipa,	
Citrullus,	
Brionia Alba,	ib.

CLASS XXII. DIOECIA.

Order I. Diandria.

Salix Alba,	331
Caprea,	ib.
Fragilis,	ib.
Pentandra,	ib.
Vitulina,	ib.

Order II. Tetandria.

Viscum Album,	332
Myrica Gale,	ib.

Order III. Pentandria.

Pistachia Vera,	333
Terebinthinus,	ib.
Lentiscus,	ib.
Cannabis Sativa,	334

Humulus Lupulus,	<i>Page</i> 334
-------------------------	-----------------

Order IV. Hexandria.

Smilax Sarsaparilla,	335
China,	<i>ib.</i>

Order V. Octandria.

Populus Nigra,	<i>ib.</i>
Balsamifera,	336
Rhodiola Rosea,	<i>ib.</i>

Order VI. Enneandria.

Mercurialis Annuua,	<i>ib.</i>
----------------------------	------------

Order VI. Dodecandria.

Menispermum Coccus,	337
----------------------------	-----

Order VIII. Monodelphia.

Juniperus Sabina,	<i>ib.</i>
o Communis,	338
Lycia,	<i>ib.</i>
Cissampelos Pareira,	339

Order IX. Syngenesia.

Ruscus Aculeatus,	<i>ib.</i>
Hypoglossum,	<i>ib.</i>

CLASS XXIII. POLYGAMIA.

Order I. Monecia.

Veratrum Album,	340
Nigrum,	341
Sabadilla,	<i>ib.</i>
Andropogon Nardus,	<i>ib.</i>
Parietaria Officinalis,	<i>ib.</i>
Mimosa Catechu,	342

CONTENTS.

xxxv

Mimosa Nilotica,	Page 342
Senegal,	ib.

Order II. Diœcia.

Fraxinus Excelsior,	343
Rotundifolia,	ib.
Panax Quinquefolium,	ib.

Order III. Triœcia.

Ceratomia Siliqua,	ib.
Ficus Carica,	ib.

CLASS XXIV. CRYPTOGAMIA.

Order I. Filices, or Ferns.

Equisetum Arvense,	ib.
Pteris Aquilina,	346
Asplenium Catarach,	ib.
Polypodium Vulgare,	ib.
Filix Mas,	ib.
Adiantum Capellus Veneris,	347

Order II. Musci, or Mosses.

Lycopodium Clavatum,	ib.
Selago,	ib.

Order III. Algæ, or Flags.

Lichen Aphthofus,	348
Caninus,	ib.
Cocciferus,	ib.
Islandicus,	ib.
Plicatus,	349
Pulmonarius,	ib.
Roccella,	ib.

Conferva Rivularis,	.	.	Page 349
Helminthochorton,	.	.	ib.
Fucus Vesiculofus,	.	.	350

Order IV. Fungi, or Mushrooms.

Agaricus Muscarius,	.	.	ib.
Boletus Laricinus,	.	.	ib.
Igniarius,	.	.	351
Suaveolens,	.	.	ib.
Peziza Auricula,	.	.	ib.
Lycoperdon Bovista,	.	.	ib.
Tuber,	.	.	ib.

PALMÆ.

Phœnix Dactylifera,	.	.	352
Sagus Farinaria,	.	.	ib.
Cocos Butyracea, } Nucifera, }	.	.	ib.

THE
HISTORY
OF
BOTANY.

I.

THE origin of Botany, like that of the other sciences, is obscure; and the first regular traces of it are to be found in the works of Theophrastus. In detailing its history from this period, it may be divided into seven different æras, illustrated by certain progressive advances made in the subject.

II.

The *first*, the Grecian æra, or that of Theophrastus, marked Botany as a regular science, began to arrange the objects of it into seven primary classes, and included in these classes about 500 different plants.

III.

The *second*, or the Roman æra, was little favourable to the advancement of Botanical knowledge. It began with Dioscorides, who formed only an

arrangement of four classes, and described about 600 plants; and it ended with Pliny the Elder, who described a great number of plants, to the amount of 1100; but employed no arrangement at all.

IV.

The *third* æra, including the long dark æra of Gothic barbarism, shewed no improvement in the progress of this science. Even on the revival of Literature, the Botany of the Antients was merely restored without any alteration; and the first hint of Systematic, or what we may term Scientific, Botany, arose with Gesner, and was prosecuted by Cæsalpinus, taking the fruit for the foundation of its arrangement, and dividing the whole into fifteen classes.

V.

The *fourth* æra comprehends the period from Cæsalpinus to Morison, who improved on his plan, by taking the flower as well as the fruit, and arranging the subject into eighteen classes. During this period many eminent Botanists appeared, who benefited the Science by their descriptions more than by any attempts at arrangement.

VI.

The *fifth* æra is, the introduction of a new system by Ray, founded on that of Morison, and dividing the subject into 33 classes. But this method, though followed and improved on by many

of the first Botanists of that period, was still very imperfect in its execution, with a view to facilitate the knowledge of plants.

VII.

From this period, however, the systems of Classification increased; and those of Kaunt, Herman, and Boerhaave, are all entitled to a certain degree of praise. Rivinus was the first who forsook the natural method, and, attaching himself to the flower, divided the subject into eighteen classes. He was followed by Tournefort, who extended them into a greater number; and at last the reputation of these different attempts became sunk in that of the celebrated Linnæus.

VIII.

From the publication of Linnæus's method, every other has given place to it; and the explanation of the Sexual System remains now unshaken, and the Linnæan Classification has been universally adopted.

INTRODUCTION.

I.

BOTANY comprehends a knowledge of those substances which compose the vegetable kingdom; and this knowledge consists in an acquaintance with the structure of vegetables, the principles of vegetation, and the particular forms or arrangement of bodies, termed their classification.

II.

This knowledge is chiefly attained by examining attentively the nature of vegetables, as discovered by their application to the senses.

III.

The senses employed for this purpose are;

1. The sight, which, with the assistance of glasses, detects their structure and the arrangement of their œconomy; and,
2. The taste and smell, which discovers their sensible qualities.

PART I.

VEGETABLE STRUCTURE.

I.

FROM the application of the first, we find the structure of all vegetables to consist of two parts, a solid and a fluid.

The solids of plants, like those of animals, consist of fibres, adapted to give a proper support to their various parts.

The intermixture of these fibres, in various forms, compose the membranes, cellular substance, receptacles, and vessels.

And thus, again, from the more simple parts arise the principal divisions of the vegetable organization, as the trunk, root, and leaves, and the temporary parts connected with fructification.

II.

The Trunk.

The trunk of a tree is composed of three different parts, known by the several appellations of the bark, the wood, and the pith.

III.

The Bark.

The bark is composed of several divisions.

The first, the epidermis, or cuticle, is the external covering, formed of fibres, which cross each other in every direction, and is a dry, thin, reticular membrane, pretty tough, and generally single, though in many plants different layers in it may be traced. It varies in its structure in different parts of the same vegetable, and consists of three different parts, as discovered by the microscope; which are,

1. Its longitudinal vessels that nourish the other parts, and have openings into them.
2. The blæ, which consists of small capsules open at top; and,
3. Its interstitial spaces.

IV.

The uses of the cuticle are to preserve porous the extreme parts of the plant, to check at the same time the too sudden evaporation of moisture from it, and to lessen the sensibility of the more internal parts to the action of the external agents. Hence it is easily reproduced when destroyed. In old trees it cracks and decays, and is again formed; and from it also we can generally judge of the health of the plant. Its texture is sometimes so thin, that the direction of the fibres are conspicuous by holding it to the light. The parts below are protected by it from the too great

influence of the atmosphere. When it is regenerated, it adheres more firmly to the cortex, and forms a kind of cicatrix or scar.

V.

The parenchyma, of a deep green colour, is the second division of the bark, situated immediately below the epidermis, soft and succulent in its texture, and formed by an inter-texture of fibres crossing in every direction. It is universally extended over the plant, and even penetrates its innermost substance, though it then changes its appearance. In its natural state it is spongy, and possesses every where pores that secrete a fluid of a watery colour, rendering it full of juice. Its structure much resembles the cuticle, though its vessels are larger; and it receives an alteration from the influence of the weather.

VI.

The cortical layers form the next part of the bark. They are composed of longitudinal fibres or vessels matted in such a manner as to resemble a kind of net-work, and each of these fibres may be subdivided into still smaller ones. It is in this part of the plant, as by a transverse section, we find the vasa propria reside, which secrete the particular juices for which different plants are distinguished. From this difference of the juice secreted, the organization of the latter we suppose different in different bodies, and also in different parts of

the same body ; though, as far as we can detect, they consist either of a simple trunk, or of several small tubes united into one trunk.

VII.

The chief use of the bark is to form the wood ; and few trees, therefore, survive the loss of it in a healthy state. By it, also, the functions of perspiration and absorption are performed.

VIII.

The importance of these two last parts are conspicuous. They appear to be parts very essential to the life of the vegetable, for in them the principal functions of life, as nutrition, digestion, secretion, &c. are performed. This appears in those trees which are hollow within, and in plants which are kept in vigour by the good state of their barks, although rotten internally.

IX.

The Wood.

The bark is connected to the next part, or the wood, which differs nothing from it in its structure, but in its farther condensation ; and hence its parts are more difficult to distinguish. It is divided into two parts, the alburnum and proper wood.

X.

The alburnum is composed of a soft white substance, more juicy than the rest, though not easily discernible in some trees ; but in the oak and elm

it is harder and more apparent. It is, in its previous stage, imperfect wood, not having acquired its proper degree of consistence, and is similar to cartilages of animals when compared with bone. Thus it is the state between bark and wood, a state the former must arrive at before it can become the latter. The hardness of the alburnum is proportioned to the vigour of the plant.

XI.

The wood, or lignum, forms by far the greatest part of the trunk and branches of trees. It is a pact fibrous substance, disposed into concentric layers, increasing with the age of the plant, surrounding the medulla or pith. It appears to be composed of a congeries of dried vessels, being, in annual and biennial plants, termed the flesh. But, besides its longitudinal vessels and vasa propria, the first of which are seen by the cleaving of the wood, and the second in the different coloured woods, as deriving their colour from this source, a sort of cavities or large vessels appear, having their coats formed in a spiral manner, which can be traced in all parts of the plant, except the bark from one extremity to the other, and are found always empty.

XII.

These we consider as the air vessels of the plant, in which the air imbibed by the plant, and necessary to the vegetable existence, receives a certain

8 VEGETABLE STRUCTURE.

change similar to that taking place in the lungs of animals, and from this change it acts as an internal stimulus, promoting the growth of the plant.

XIII.

The use of the wood is to give solidity to the different parts of the plant, in the same manner as the bones afford strength to animals, and in many vegetables a certain degree of this solidity depending on its number of woody strata is required before their fructification can take place.

XIV.

After the wood, the next and more internal part of the plant is the corona, which, though it forms properly a part of the medulla, consists of a stratum of cellular matter between the wood and pith, in which the vital principle of the vegetable is supposed to reside; and in its structure, on examination, it discovers the same constituent parts as in the other divisions described.

XV.

The Pith, or Medulla.

The last division of the vegetable body, is into the pith or medulla, which is soft, vesicular, and differs from cellular texture by its snowy white colour: when dry, it is changed into a brown appearance. In its structure, internally, it is cellular, and is not continued uniformly through the plant, but in many discovers interstices or interceptions, so

that its parts are placed as it were in a septum. During the growth of the vegetable while young, it exists in greatest quantity; and, as the woody strata increase, it lessens, and is found often entirely shrivelled, and at length disappears. Thus it forms a necessary support to the youth of the plant, but it gradually becomes less necessary with age; and, perhaps, there is reserved a superfluous nutriment in the medulla, lest the young plant becoming dry, it may be absorbed and converted into aliment, in the same way as the fat is occasionally taken up in animals.

XVI.

Its use, therefore, appears to assist the growth of the plant by supplying it with a quantity of juice, and hence its extent is very general, and connected with the degree of rapidity in which the increase of the plant proceeds.

XVII.

Branches.

As the branches form a part of the trunk, they agree with it in the same structure, and deserve no particular description.

XVIII.

The Root.

The root of trees, though only a continuation of the trunk, from its situation in the earth the parts are rendered less conspicuous. This similarity

to VEGETABLE STRUCTURE.

of structure is confirmed from this circumstance; that if the trunk of any tree be torn up, and inverted, so that the trunk and branches are put into the ground; then the part, which was originally trunk and branches, becomes root, and the root is converted into trunk and branches.

By the root a foundation or support is afforded to the tree, for by them is it fixed in the earth, and prevented from being torn up by the wind.

Through the smaller parts of the root, or the radicles, which are every where given off from the root and its ramifications, is absorbed a nutritious juice from the earth, for the increase, &c. of the vegetable.

XIX.

The Leaves.

The bark gives origin to the leaves of the plant, which are attached to the branches by short foot-stalks that issue out a number of fibres which ramify and communicate over the whole leaf. These fibres may be separately obtained by the leaf being kept long moist; for every other part, in consequence of putrefaction, separates, and leaves the fibrous texture alone. Thus a leaf consists of an epidermis, a vascular net-work, and a parenchyma full of a greenish juice. Their fibres are perhaps improperly called the nerves of the leaf, being merely its vessels running in every direction, and branching out into innumerable

VEGETABLE STRUCTURE.

11

small threads, interwoven with the parenchyma, like a fine gauze or lace.

The epidermis or cuticle of a leaf, like that of an animal, is plentifully supplied with pores, by which both respiration and absorption of various matter, as dew, air, &c. are performed. These pores or orifices differ both in shape and magnitude in different plants, and hence the variety of texture apparently peculiar to every plant. The epidermis covers the whole leaf, and contains in it a number of plants.

The arrangement of the parenchyma is into extremely small cells, varying in size in the same leaf, and which are made up of very minute fibres.

Whatever is the figure of the leaves, they are circumscribed by the bounding of the other parts by a marginal fibre. The figure of the leaf is determined by the peculiar shape of the fibrous parts.

By the leaves is the plant nourished. The nutritious juice is reserved for this purpose in their parenchymatous substance. They also expire and inspire air and water.

XX.

The Flower.

The ultimate purpose of all the parts of a plant are directed to its fructification. The particular part connected with this is the flower, on which its generation depends, hence the rudi-

ment or first beginning of the fruit is in the flower, of which it makes a part.

The flower is a temporary appendage of vegetables, like the maternal part of the ovum in the human subject. It terminates the existence of the old vegetable, and it gives origin to the new. It consists of several principal parts, namely, the calyx, corolla, stamina, pistillum, pericarpium, femina, and receptacle; the four first belong properly to the flower, and the three last to the fruit.

1. The outer husk, or cover of the flower, is termed the calyx, empalement, or flower-cup, being the termination of the outer-bark of the plant, which, after having pervaded the trunk and branches, assumes in the flower this particular form, and also attends the fructification. This part is of a firm consistence, and serves to cover and protect the more delicate parts of the flower within. It receives different appellations according to the circumstances with which it is attended. It is smooth within, and sometimes only a temporary part.

2. The corollæ are the next part to the calyx, or leaves of the flower. They are properly the continuation of the inner bark, and attend the fructification in the form of foliage. They are distinguished by their colour, and by being the seat of odor in the plant. Their use is the same as the calyx, serving as a work of defence for the inclosed

parts. Thus the calyx protects the outer, while the corolla protects the inner parts. The leaves, of which the corolla consists, are called petals. They are possessed of more sensibility than the calyx. They receive different names according to their number, form, &c.

3. The next part is the stamina, threads or chives, which are the male part of the flower, designed for the preparation of the pollen, and which consist of the filaments and pistillum. The former is composed of the foot-stalk, and the anthera or button at top, which is generally capsular, and contains the pollen, farina fecundans, or meal, which is fine dust secreted therein, and destined for the impregnation of the germen. Each portion of this meal is by a microscope seen to be concealed in a very fine pellicle (which at the time of impregnation bursts) containing the prolific liquor.

The latter, the pistillum, pistil or pointal, is the female part of the flower, designed for the reception of the pollen, and consists of two parts. The undermost is the vegetable uterus, and when in flower is termed the germen, and when in seed the pericarpium. It differs considerably in its structure in different vegetables, and the seeds are attached to it by small filaments, by means of which they receive nourishment. It differs from the animal uterus in being renewed every time of

14 VEGETABLE STRUCTURE.

fructification. Its under part is termed the style or stigma. The pericarpium of several vegetables has a considerable quantity of a proper juice contained in a parenchymatous substance, or in vesicles, every where supplied with very minute air and sap vessels. These are called fruits.

XXI.

The Seed.

The semina, or seeds, form a deciduous part of the vegetable. In this part the rudiments of a new production, or vegetable, are contained. Hence the seed possesses a vital principle derived from the operation of the pollen, and which it strongly retains for an immense length of time.

The seeds differ much in their figure and size. They are composed of three parts, their covers, their lobes, and the embryo plant.

1. The covers are two, the external and the internal. The former are thin and dry, the latter spongy and succulent. They are both temporary parts, and perish in the early stages of germination.

2. Within the covers are situated the cotyledons or lobes, though in many there is only one; and of these lobes the nutritious part of the seeds is chiefly formed. They seem in their use to serve the same purpose as the placenta in animals does to the foetus, conveying nourishment to the young plant.

3. The young plant is situated between the lobes, and attached to them by small fasciculi of vessels sent off from it to each; and, as soon as the young plant comes up, we observe the leaves different in shape and consistence from the others, which are termed the seminal ones, and assist in conveying it nourishment.

XXII.

The last part of the flower to be noticed is the receptacle, which is the base that connects the other parts of it together.

XXIII.

Such is a general view of the chief parts of the vegetable structure, and from this view we are led to conclude that it consists chiefly of fibre, with a cellular tissue involving it. In the structure of the tree, these parts are formed into a number of remarkable organs. The grasses differ, as containing a smaller proportion of ligneous fibres, and the seeds and flowers resemble the wood and bark.

But in this examination of vegetables, the extent and arrangement of the vessels, and the various nature of their contents, merit a more particular detail.

XXIV.

Vascular System of Vegetables.

Like the animal, the vegetable structure is highly vascular. Its vessels are disposed in a regular order, and covered by a fibrous delicate

texture. Through them the vegetable is enabled to perform its various functions; and the different changes which its fluids undergo, take place through this secretory medium.

XXV.

The vessels of vegetables are, perhaps, equally varied as those of animals in their form, texture, and uses; hence an arrangement of them has been made by physiologists into five different kinds.

The 1st is the succous, which, opening by absorbent mouths or pores, ascend perpendicularly, and carry the nourishment of the vegetable to every part.

The 2^d is the utriculous, conspicuous on cutting the trunk, situated in the cellular texture, and observing a horizontal direction in their course.

The 3^d are the few that pervade the medulla, having the same horizontal direction as the former, but insulated and irregular in their situation.

The 4th are the proper, which accompany the larger succous ones.

The 5th are the spiral ones, which run in a contorted form, are surrounded by the first division, or the succous being placed immediately under the external skin, and serve both for the conveyance of air and nourishment to the plant.

XXVI.

Vascular Contents of Vegetables.

Correspondent to these various divisions of the

vessels, are also in some degree the nature of their contents; for,

1. There appears in every vascular part a common watery fluid, analagous to the blood of animals, and from which the other parts are separated; and this watery part is most abundant in the wood, and circulates both up and down for the nourishment of the different connected parts.

2. There is found a juice or secreted fluid proper to each vegetable, separated from the former particularly by the vessels which occupy a situation between the bark and alburnum; and this fluid is different both in colour, consistence, and qualities, in different vegetables.

XXVII.

Such being the general structure of the vegetable body, which first appears in the form of a seed, with a view to understand the nature of its œconomy, we must trace the gradual changes which attend its progress from this state.

XXVIII.

Progress of Vegetation.

The first change of the seed, when favourably placed, is the conversion of one part into a root or radicle, while another part, its plumula, rises above the earth, and assumes the form of a trunk or stem. This is the commencement of germination, a process which is regulated by different circumstances unconnected with the seed itself.

XXIX.

Circumstances necessary to Vegetation.

1. The first of these circumstances is the access of moisture in a certain degree; and this degree is regulated by the nature of the plant. Thus no plant will germinate without moisture; and germination also may be destroyed by too much of it.

2. The second circumstance necessary to vegetation, is the degree of temperature; and this is regulated in some measure by the constitution of the plant, for each plant is attached to a particular temperature. Hence their appearance at different times of the season; and hence the freezing point, as well as a very high temperature, is equally unfriendly in the greater number of instances to this process.

3. The third circumstance essential to the process is the admission of atmospheric air, for no plant will grow in the receiver of an air pump; but on farther experiments, the part of the atmospheric air most friendly to this process, is its portion of oxygen or vital gas.

4. The fourth circumstance friendly to this change, is the exclusion of light. Thus plants germinate best in the shade, and thus the soil is necessary to cover the seed.

XXX.

On the seed, the influence of these circumstances are applied to two important purposes. The first is;

1. The preparation of the nourishment of the young plant; and

2. The second is the evolution of its several parts or organs.

XXXI.

The absorption of moisture naturally gives place as a consequence to the extrication of carbonic acid gas, and this extrication produces a diminution of carbon, and an excess of hydrogen in the farina of the seed. By the absorption of oxygen at the same time, and its retention in the cottyledon, the farina of the latter acquires a sweet taste, or is converted into sugar; and along with this absorption of oxygen, an evolution of heat ensues. The effect of these chemical changes proceeds. Vessels next appear in the cottyledons, which pass to the radicle of the plant, and thus a communication is opened between the vegetating power and the future production.

XXXII.

This communication produces an increase of the radicle, which sinks into the earth and becomes a root, but for long its dependance is placed on the vessels of the cottyledon, and the separation of them destroys the farther progress of the process.

XXXIII.

As the radicle thus increases, the cottyledons also advance in their change. They gradually rise above the ground, being converted into leaves, termed feminal ones; and the plumule, expanding in the same manner, shoots forth into branches and leaves, at which point the feminal ones decay, and no part of the cottyledons is longer required. Till, however, the plumule arrives at this perfect state, the loss of the cottyledons is felt, and the vegetation is not entirely destroyed by the removal of the feminal leaves, yet the future production is much injured in its growth.

XXXIV.

The effect of germination, then, from this view, is the acquisition of life and growth; and this growth, after the completion of the different parts of the plant, gradually extends, being regulated by the nature of the plant, and by the circumstances of the season and the soil.

XXXV.

Every season, however, displays an increase of bulk. New shoots arise from the roots, the old ones swell and enlarge. The branches and trunk receive the same proportional increase, and thus new matter is constantly adding, and this addition must be taken in by the organs of the plant, or drawn from an extraneous source, as a consequence of its excess of nourishment.

XXXVI.

Nourishment of Plants.

From the necessity of moisture to vegetation, from the use of rain and dew, and from experiments in the watering of plants, this fluid must constitute the principal part of the vegetable nourishment. This opinion, however, so long prevalent, has been invalidated by late experiments; and instead of being the proper food, it is rather the means of diffusing through the plant another principle to which their nourishment is more properly referred.

XXXVII.

This principle is their portion of carbon; and during vegetation, all plants receive an increase of this matter, which is necessary to their perfection and semination, and even to the period of their actual vegetation: yet, independent of this, water is still to be regarded as a part of their nourishment, and the quantity in which it is proper, is determined by the particular nature of the plant, and by the soil in which it is placed.

XXXVIII.

Soils.

All soil consists of two parts, a quantity of simple earthy particles which gives a foundation to the plant, and serves for its support, and of various other matters involved in this simple earth, which applied to the vegetable root, are taken up, and

enter into the plant. By the union then of these two parts is soil formed.

XXXIX.

In soils, a considerable difference prevails, according to the proportion of these principles present in them, and according to the nature of the earthy particles with which they are united. Hence soils fall to be considered as of various species, in all of which one or other of the following earths will more or less predominate, silica, lime, alumina, and magnesia. The first constitutes a dry soil, the third a wet soil, and the second and fourth are intermediate ones between these two extremes.

XL.

In nature, however, these soils are not found uniform. One of the first noticed is the calcarious soil, in which an excess of lime prevails. The second is the soil produced by the decomposition of putrid, animal, and vegetable matter. The third is a mixed soil, or loam, consisting of a modification of the two former, being especially the effect of art and mechanical mixture. The fourth soil is clay, distinguished for the excess of aluminous earth, with a proportion also of the calcarious, siliceous, and other matters. The fifth are sandy or gravelly soils, which vary in fertility according as the sand is silicious, aluminous, or calcarious, the first being the least so. The last soil is the

bituminous, which contains an excess of oily and carbonic matter.

XLI.

The quantity of rain, however, falling in a country, will much determine the proportion of earths in a soil; and from this difference of soils, the quantity in which water is admitted also to the plant through them, as nourishment, will likewise be various.

XLII.

But, besides water and carbon, plants also contain a portion of earth in their composition. This must no doubt be drawn in from the soil; and if thus drawn in, earth too must form a certain portion of their nourishing principle.

XLIII.

Various other matters are contained in the soil, and these matters are also found more or less as principles of the vegetable body. Soils also are found most prolific from manures, in which these matters are most abundant. Hence such matters may form, perhaps, a part of the vegetable nourishment, and it is from this source the carbon necessary to vegetation is derived.

XLIV.

These manures consist of substances taken from the vegetable, fossil, or animal kingdoms; and in their use particular attention should be paid to the nature of the soil requiring their application. The

principal manures employed consist of lime and its carbonate, particularly in the form of marles, with siliceous earths and aluminous clays, and also in the form of sea-shell and wreck. Such manures are highly useful to the bituminous soil, and to some of the clays, and their effect is greatest in the neutralized form, rather than in the state of pure lime: for the calcareous soil, the remains of putrid animal and vegetable matter, or dung, is most successful.

XLV.

Thus from the analysis of these substances, it is probable that oxygen and carbon are the chief principles supplied by the application of manure to the soil, and that they are drawn from the soil by the vegetable, as constituting part of its nourishment and composition. That the carbon is decomposed also by the iron constantly present in every soil, and that by this decomposition it is rendered fit for the purposes of the vegetable.

XLVI.

As the nourishment of plants, or the means of their increase, is clearly derived from the soil, that part of them next to the soil, or the root, must form the medium of conveying it. In examining this part of their structure, no sensible openings appear. The naked eye traces no passage for its reception; hence it must undergo a state of extreme fluidity or solution before it can be received

into them, and the vegetable food, therefore, can only be of a very fluid nature.

XLVII.

The extremities of the radicles appear also the part most active in receiving this nourishing supply, and the soil is therefore much exhausted where these radicles are most extensively spread. The amputation of a radicle stops its growth. Its extremity is never renewed, shoots arise from its sides to supply the deficiency, or a new root is entirely formed.

XLVIII.

As the food of vegetables is required in a state entirely fluid, so all the matters of which it is composed are capable of undergoing this solution. The food then absorbed by the roots is received into the vegetable body in a fluid state, and when received, it is distributed through the plant, to assume certain changes from the action of the other parts of the plant.

XLIX.

This food or juice ascending constantly from the roots, has been termed, as already noticed, the sap, lymph, or blood of the plant. It is most abundant during the spring; and by incision of the bark and part of the wood, it is made to issue out, or the plant is said to bleed.

I.

At different periods of the season this sap, or blood of the plant, is found in very different states. The composition of this sap has employed the experiments of chemistry, and it has been found to consist of various proportions of water and volatile matter, which is most abundant; of acetite of potash, of vegetable matter, and of carbonate of lime. Of these several ingredients, the increase of the vegetable matter is gradually conspicuous as the season advances, while the saline principles diminish in the same proportion. Hence the saline ingredients are derived probably from the soil and some part of the food, while the vegetable matter is elaborated by the organs of the plant. At the same time, though these saline matters are derived from the soil, they may acquire some change on their absorption by the roots, or on entering the general circulation of the plant, similar to what the blood receives when it is poured into the general circulation in animals.

LI.

The sap received into the roots ascends the vegetable circulation with force, and issues from the injured part during the bleeding season so strongly, as to support a mercurial column of 32 inches. In its progress it is carried to the summit of the tree, and its passage has been marked by

various experiments with coloured liquors ascertaining this fact.

LII.

The seat of circulation is found also to be the wood, not the bark. Hence, though stripped of the bark, the tree continues to grow; and hence the bleeding of the sap is inconsiderable, unless the incision is carried into the wood.

LIII.

This sap is conducted through the vessels or tracheæ conspicuous in the wood, which have been already noticed, and which appear, at least the larger ones, always empty on cutting the wood; and to judge of them, they should be inspected the instant the incision of them is made.

LIV.

The power by which the sap is conducted through the vessels, depends evidently on their own principle of irritability. It neither depends on the lightness of the fluid, on the action of the air on the vessels, on the existence of valves, on fermentation, nor yet on capillary attraction, for to all these different principles numerous objections may be offered. The facts which support the irritability of the vegetable fibre are well established. Many plants are known to move on the application of a stimulus to them. Flowers are found to expand with the sun, and to close at night. Experiments shew the actual contraction

of the vessels by the discharge of their contents, and vegetation is promoted by the addition of certain stimuli. Thus the mouths of the vessels receive their sap, and by their contraction propel it upwards, till, from the extremity of the roots, it reaches the summit of the plant.

LV.

But, in the vegetable system, besides the sap, another fluid was noticed, or the peculiar juice, the *succus proprius* of the vegetable. This fluid is considerably different in different vegetable bodies. It is clearly a secretion from the sap, or the latter altered by a peculiar process. Its absorption is from the leaves towards the roots, which an incision of the plant discovers, by its greatest flow being this way, and by a ligature producing a swelling above, and not below.

LVI.

The vessels from which it flows are found in every part. Their structure agrees with the tracheæ. The peculiarity of this fluid is distinguished by its colour and consistence, appearing green, red, milky, &c.; and its progress in its vessels depends on the same principle as that of the former fluid, or the sap.

LVII.

Thus, while the sap ascends, and is directed to the leaves, it is there changed to fit it on its de-

scient for forming the peculiar secretions that go on and form the peculiar vegetable juices.

LVIII.

The changes the sap acquires in the leaves are difficult to trace ; but on arriving there, part of it evaporates, or is thrown off. Nor is this an inconsiderable part, for some plants are known to discharge daily equal to half their weight. The extent of this discharge corresponds in some degree to the surface of the leaves, and the removal of the leaves terminates the transpiration. It is regulated also by the degree of heat, and only takes place during the day. Hence sunshine promotes it, and rain and frost counteract it ; and even the quantity of sap absorbed depends on the proportion of this discharge.

LIX:

The nature of this follicular discharge is not fully determined. The leaves are the only organs by which it takes place, and of these the upper surfaces are the part of the organ on which it depends. Thus the varnishing, or otherwise coating this part, entirely prevents transpiration ; and the leaves themselves, gradually in the progress of the season, become less fit for this peculiar office.

LX.

As transpiration takes place only by the leaves, and these are for the most part annually renewed, It appears only a temporary function ; and even

where the leaves are retained, as in ever-greens, the discharge is proportionally less than in other cases.

LXI.

But, as well as emitting a discharge from the plant, the leaves also are capable of absorption from the atmosphere, and in this way is carbonic acid gas introduced into the plant. This fluid is essentially necessary to vegetation. It is both found in the plant, and emitted from it, and also absorbed by the leaves, and introduced anew. The quantity in which it is necessary, has not yet been fully determined. By means of it the oxygen of the plant is discharged, and the carbonic base fixed in it as a constituent principle.

LXII.

In order to this decomposition taking place, light is essentially necessary; hence it only occurs in the day time, and the quantity of carbon entering a plant depends much on its growing in the light; for, when confined to a dark situation, the proportion it acquires is very small. Along with the access of light, a something derived from the soil, and imparted to the sap, is also necessary to complete the due quantity of carbonization.

LXIII.

Thus a considerable quantity of carbonic gas is required for the health of plants; but the proportion of it, and the quantity of oxygen emitted,

have not been ascertained. Reasoning, however, from analogy, it may be supposed the quantity of oxygen thus given out should correspond in plants with the proportion of carbonic acid gas discharged by animals, and thus a natural balance of these principles will be preserved, so as to admit the processes of animal and vegetable life to be properly conducted.

LXIV.

In the parenchyma of the leaves, the decomposition of these principles is supposed to proceed. That it is connected with a regular organization is ascertained; for the destruction of the follicular organization destroys it.

LXV.

Thus the sap absorbed by the roots and leaves is in part discharged by the latter, and its remainder changed by the addition of carbon. But, as well as carbonic gas, oxygen is also absorbed by the leaves, and seems necessary to the process of vegetation. Hence the necessity for the presence of atmospheric air to the growth of plants, the absorption of which it is most probable occurs in the night.

LXVI.

With oxygen, water also forms a part of vegetable absorption. In the form of rain and dew it descends on the leaves, and gives them vigor and animation. Hence a moist atmosphere is most

favourable to vegetable growth; and in descending into the particulars of the absorption, the under part of the leaf seems more immediately appropriated to it, while the upper part forms the transpiration.

LXVII.

From these circumstances, various parts of the leaf are adapted to various purposes; and a conclusion is also to be farther drawn, that the absorption of the various matters that take place into the vegetable system is confined chiefly to the night, while their decomposition again is an operation chiefly conducted during the light.

LXVIII.

In this manner are performed the varied operations of the vegetable system at different times. Water and oxygen are emitted by day, and carbonic gas is absorbed; while moisture and oxygen are absorbed by night, and carbonic gas is given out. This emission of carbonic gas arises from the decomposition of water, and is regulated by the quantity of oxygen absorbed.

LXIX.

The decompositions which arise in the œconomy of the plant, it is impossible with accuracy to ascertain. It is clear, that during the day the carbon of the sap is increased, while, during the night, the hydrogen and oxygen are accumulated. The after combinations, detailed under the head of

Chemistry, in the manner of their formation elude our research.

LXX.

The real quantity of oxygen emitted, and carbonic gas absorbed, is also difficult to establish; for experiments shew, both that an accumulation of carbon is constantly taking place in the plant, and also that the emission of oxygen from it is greater than from calculation is imagined.

LXXI.

Besides these purposes answered by the action of light on the plant, others remain of a different nature, particularly its effect on their colour. Light communicates a green colour to the vegetable fibre, darkness renders it white. In order to this effect, though we cannot explain the cause, the presence of oxygen, as well as light, seems necessary; and wherever the atmosphere is loaded with hydrogen gas, this greenness is increased.

LXXII.

In this general view of the vegetable structure, the leaves appear to serve the most important offices. By them the nourishment is in part conveyed, and through them the carbonization of the sap in the same manner as by the lungs the oxidation of the blood of animals takes place.

LXXIII.

Hence the loss of the leaves is to the plant the loss of its vegetating powers, and new leaves must

34 VEGETABLE STRUCTURE.

be produced before vegetation can proceed. This is conspicuous in the plant from the period of its first germination, and the removal of the dead leaves is the suspension of its growth.

LXXIV.

The formation of leaves is even marked long before their appearance. They are traced in the bud, and require only evolution, or that the plant should barely possess so much nourishment within itself till this evolution is effected, and its new parts, or leaves, are complete: but, if the plant should be deprived both of leaves and buds, its vegetation is then at a stand, and cannot proceed.

LXXV.

From the leaves, then, where the changes detailed are performed that constitute the peculiar juice, the latter is carried by vessels to every part, and the various intentions of vegetation are thus executed by the increase of the wood, bark, and roots, by the preparation of seeds, and by the accumulation of nourishment in the buds, so that the future purposes of the œconomy may be answered.

LXXVI.

This peculiar juice must from its nature differ in different vegetables; and their leaves, therefore, though their mode of action is the same, from peculiarities of combination, must furnish different products. But, whatever specific differ-

ence may take place in these products, one principle must always be present in the peculiar juice, the base of the wood or vegetable fibre, in the same manner as the animal blood contains the fibrine, or base of the muscular fibre. This is even established by experiment, and by applying chemical agents to the peculiar juice; for a deposition takes place from the juice of a matter similar to the woody fibre. Compared then with the sap, the peculiar juice contains an excess of carbon, hydrogen, and oxygen, with a deficiency of water and lime; and in consequence of its being conveyed to every part, the different functions of the plant are performed, though the manner in which these take place is involved in obscurity.

LXXVII.

Particular Economy of Vegetables.

Having thus taken a connected view of the progress of vegetation, we are now prepared for examining the vegetable œconomy more in detail. The connection between the animal and vegetable system is strongly marked, and the several functions connected with nutrition and increase, admit of a near comparison.

LXXVIII.

Vegetable Absorption.

The first of the functions is the absorption of nutriment. Vegetable absorption differs from the animal in only taking place by the surface, and

36 VEGETABLE STRUCTURE.

consequently in being less complex. The surface has, for this purpose, we have seen, two sets of absorbents, the pores or mouths on the radicles of the roots, and those on the surface of the leaves.

LXXIX.

The root imbibes the nutriment from the soil, by means of its absorbent pores, as long as it continues in a succulent state; when this changes, it loses its powers, and shoots are sent out to continue the absorption, and convey it, first to the root, and thence to the whole plant. Thus the success of transplanting depends on the number of these radicles present.

LXXX.

The leaves also, we have seen, are an organ equally important as the root; they absorb a variety of matters from the atmosphere with equal power, as the radicles do from the soil, and convey them to every part of the plant. Thus the plant drooping in the solar heat, is revived by the dew of night, transmitted to every part of it through the leaves.

LXXXI.

Thus an obstruction of the leaves, by shutting their absorbent mouths, produces disease and change of colour; and the removal of this part even suspends vegetation. Thus, also, where the root of the plant is small for affording nourishment, its leaves proportionally expand.

LXXXII.

This is conspicuous in the cacti and sedas, which, although they have very small roots in proportion to their size, and grow on the driest hills, are very succulent.

LXXXIII.

The variety of matters which the leaves transmit, were already considered.

LXXXIV.

The first to be reviewed is water, which, through this medium, is diffused through every part of the plant, and constitutes a portion, as already noticed, of its aliment. Under the want of this universal fluid, the plant droops and dies; by its influence it is not only nourished, and its vascular system dilated, but it contributes greatly to stimulate and augment the vital power of the vessels. Water was considered formerly as the sole food of plants, and the proof of it was drawn from the circumstance that plants placed in water alone will grow without any other nourishment. There occurs, also, frequent instances of springs being dried up from their neighbourhood to a wood, which could only depend on this cause.

LXXXV.

The second matter absorbed through the medium of the leaves is atmospheric air. Thus air, besides being a necessary stimulus applied externally to the plant, enters also largely into its composition, in so much so, that some vegetables possess a

38 VEGETABLE STRUCTURE.

quantity of it equal to a third of their weight. The quantity of it, however, necessary to different vegetables, is various; and hence we find that those which grow on a mountainous situation, and are much exposed to it, perish soon when brought down to a plain.

LXXXVI.

Thus, also, plants *in vacuo* cannot be evolved from the seed, nor can vegetation afterwards proceed. To the same principle may, perhaps, be referred, that seeds buried too deep in the soil, do not vegetate, but die.

LXXXVII.

But in this absorption of atmospheric air, we must examine the particular ingredients of it which are so necessary to the plant. Two principles we find contained in this fluid; and these two principles, we already noticed, as essential to vegetation.

LXXXVIII.

The first is vital air, which we find both absorbed and given out by the plant. Thus plants placed in this fluid alone grow larger, become more powerful, and are greener than in atmospheric air.

LXXXIX.

No air then, when deprived of oxygen, is fit for vegetation alone; and plants placed in azotic or mephitic air, carbonic or fixed air, hydrogen or inflammable air, become flaccid, and gradually

die. Nitrous air has the same effect on them in a short time. Hence vital air imparts a natural stimulus necessary to excite the fibres, and support the vital energy of the vascular system.

XC.

The next matter absorbed, we noticed as absolutely necessary to the vegetation of the plant, is carbonic acid gas, a matter in order to convey to it the constituent base of its fibre, and its other predominant principles.

XCI.

The matter of heat, or caloric, from the surrounding atmosphere, is another substance essentially necessary to the success of vegetation, and which is absorbed by the plant. The necessity for it is sufficiently demonstrated by the appearance which plants at peculiar times of the season assume, and by the difference which vegetables display in different climates. The degree of it also requisite for the growth of individuals in the same climate, is considerably varied, and forms what may be styled the difference of vegetable temperament; and it is this difference which has given occasion to the several modes of its artificial application, by the construction of hot-beds, green-houses, &c. From the same cause the shades of trees are so cool. Tepid showers, by which they obtain water, together with this principle, is most favourable to their growth. Even in the state of

40 VEGETABLE STRUCTURE.

seed this matter is required, for seeds do not vegetate in the cold.

XCII.

Light is another matter, we observed, of great importance to vegetation in respect to their colour. Night and a dark situation renders their appearance paler, and destroys their vigour; but by the influence of the day, they become strong and coloured. Thus the endive, artificially tied up, grows white internally, and green externally; the asparagus, covered with soil, becomes tender and white, and its increase seems but slow; while, if exposed, it on the contrary soon expands, becomes firm, and acquires a greenness of colour.

XCIII.

The last cause of vegetation is the electric fluid, which is always present in the atmosphere, and silently conducted from it by the attraction of vegetables. Hence we find a number of vegetables that grow best in warm moist weather, when it is most abundant; and its artificial application has been also experienced to promote considerably their growth.

XCIV.

Thus the food of plants is more varied than it was once supposed; and though water and air form their principal nourishment, yet many other matters are blended with them, that deserve the first attention in their œconomy.

XCIV.

Absorption, then, is the mode by which the nutriment of vegetables is received into their system, and when absorbed, it is next converted or assimilated into alimentary matter.

XCVI.

The principles of vegetable nourishment, when analysed, are similar to those of animals. In the animal, a particular organ decomposes them after their reception into the body. In the vegetable, they receive a previous preparation in the soil, which fits them for immediate application. Thus Nature performs herself the preparatory task, by the putrefaction of the various inorganic substances the elementary principles of the vegetable nourishment are disengaged and attracted by the mouths of the absorbent radicles. Vegetables then, like animals, are nourished by a similar process, the vessels for which in the former are situated externally, but in the latter they are placed internally in the intestines.

XCVII.

By the activity of the vegetable organs, the aliment is next converted into a peculiar fluid, under the name of sap, (totally different in its nature from what it was before its absorption,) and which acquires, as a part of the change, the possession of the vital principle. Thus animation

being given to the alimentary fluid, universally distributed, it serves for the nutrition, development, and reproduction of vegetable substances, and answers every purpose of the animal blood. By its intimate penetration into every part of the plant, nutrition is conveyed, and their gradual extension and increase is an effect of the application of the same means.

XCVIII.

Thus the absorption taking place from the vascular extremity, or pores, conveys the already prepared fluid or chyme into the succous vessels, formerly noticed, into which they open; and thence, by the tracheæ or spiral ones, it reaches the parenchyma of the leaves. There it is changed into a different juice, and the vital principle added to it, thus vegetalized, it is carried to all the parts of the fructification by the circulation of proper vessels, and by the same power deposited for the formation of the solid, and the various secretions of the fluid parts.

XCIX.

In this manner is conducted the nourishment of the plant, its vessels elongated, and its whole fabric increased; and the same vegetative principle which generates it in the seed, continues its nutrition in the various stages of its increase while its life continues.

C.

The leaves of plants being thus supplied with parenchyma, which is the receptacle for the nutritious juice, may with propriety be considered as analogous to the adipose panicle of animal bodies.

CI.

With the ripened fruit of plants, the stages of nutrition and increase cease, and the vascular system hitherto active, gradually becomes ligneous and impervious.

CII.

Vegetable Growth.

The course of vegetable growth is a subject beyond our research. Its progress we are only able to trace. The evolution of the seed was formerly examined, and the stages from the period of its formation into the plant, now claim our attention.

CIII.

This growth does not observe, in every plant, the same progress; for in the root, at first, it advances more rapidly than in the stem; and an oak plant one foot and a half high, has a root four feet in length, in order that by shooting out it may suck in sufficient nourishment. If the principal root be mutilated, the plant emits radicles in every direction; which always grow faster than if the root had remained perfect. The radicles

44 VEGETABLE STRUCTURE.

at first do not receive any considerable increase; but soon after augment into a body almost equal to the principal root; and then, when too hard for absorption, they protrude new lateral radicles.

CIV.

The extreme apex of the roots is the point of prolongation, and this appears if any root be coloured with varnish in different places. The radicles, also, choose always the most humid part of the soil, so that walls are frequently overturned by the power of the roots penetrating towards moist places. Thus the growth of the roots takes place, while the other parts of the plant are yet dormant; and hence a difference in the temperature of the root from the other parts prevails.

CV.

The trunk of vegetables is expanded throughout its whole length; and not, like the root, at the apex only, but its growth is less quick than that of the root. Thus, if the tender stem of a plant at the beginning of spring be coloured over with varnish, and marked in different places, the marks will, after a few months, be observed to have receded. In some cases, however, where the fibres are soft and succulent, the growth here is also performed by elongation, though in the greater number an additional matter is supplied.

CVI.

In annual plants, the highest expansion of the stem continues until the unfolding of the flowers: then the fibres of the stalk indurating, at length gradually become dry.

CVII.

In perennial plants, the stem continues to increase until the fall of the leaves in autumn. In the mean time, a germ or bud appears in the apex, containing the rudiment of the new stem, which during winter increases slowly until the following spring. On casting off its winter covering, at this period it continues the increase of the stem in the same manner as the inferior part increased during the former years; for from the place where a bud is seated a tumour extends, which being continued with the new stem, scarcely leaves any vestige.

CVIII.

The stems of vegetables increase also by additional strata in breadth as well as in length, and these are formed by the bark, which, similar to the periosteum in animals, penetrates the bone, or conveys the generating matter. Thus additional strata are annually deposited by the vessels of the bark, as experiments confirm: for, if the cortical ring be torn from the trunk of a tree, and the woody cylinder of the denuded part be perfectly surrounded with a tin leaf; and the whole after being replaced, is covered with the tree plaster; then,

upon cutting the tree some years after, it will be found that no increase takes place in the part covered with tin, and that it remains as when first applied. These ligneous strata are the production, as formerly stated, of the bark; for, if metallic threads be inserted obliquely into the cortex, they are after a length of time observed in the wood itself, and not in the bark.

CIX.

In this way does the increase of vegetables proceed, and the rapidity with which it takes place in individuals is considerably varied, hence the different size of vegetables both in height and breadth at the same age. This is particularly the case with trees, for their trunk receives two ligneous strata annually; but the thickness of these strata varies every year, being greatest when the tree is of a middle age, and the warmer the summer, the more slender the bark. It is from these annual strata of trees that an attempt has been made to ascertain their age, and in many this is no doubt to be done from the appearance of the annual circle, but in others it can only be accomplished by observations of the quantity of growth in a given time. The bark has been considered as a protrusion from the vessels of the wood.

CX.

The generation of branches appears to be from the corona, or that division situated between the

wood and medulla, from whence they proceed.

A germ, also, or bud, produces a new branch, and hence gives birth to a new plant concealed in it; for the branch contains every part essentially necessary to form a new plant, as is evident from cutting it off and planting it, by which a complete tree is produced.

As the vessels principally protrude where there is the least resistance in the bark, the same is observed of the branches of the root.

CXI

The vessels of the bark give origin also to the leaves; for, the bark being separated from the wood, no connection of the leaves with the wood can be observed; and the bark alone, if put into water, produces leaves.

CXII.

In the production of flowers, the epidermis enters the calyx, the alburnum the corolla, and the series of vessels into the stamina and pistils.

CXIII.

The Secretion of Vegetables.

As the animal secretions arise from the blood, so the same takes place from the sap of the vegetable, the nourishment distributed to every part is partly applied to the solid parts, is deposited in peculiar secretory vessels, in particular receptacles, or on particular organs; and the useless or superfluous part, is discharged by transpiration through

the leaves; or is, perhaps, partially carried off by the roots.

CXIV.

As these various fluids exist in particular parts of the vegetable, and no where else, so by the power of these parts alone must they be produced, and by the action of the vessels there, the sap seems to be decomposed into their principles, and these, at length, form new unions, and compose new productions.

CXV.

Vegetable Transpiration.

Plants, we have seen, possess a discharge similar to the perspiration of animals; and this perspiration is divided, like it, into the insensible and sensible. The insensible perspiration is chiefly performed by the leaves; and hence it only takes place while the leaves exist, and in the evergreens, where they always continue, the perspiration on this account is found, by experiments, considerably smaller than in the others. The matter perspired, was already examined; and even the air along with it, though from a poisonous plant, is pure. The quantity varies much in different bodies, and is greatly influenced by external circumstances. For it is most conspicuous in the day-time, is most abundant in dry weather; and hence, also, dry plants perspire always most, and are much affected by the state of heat and light.

The purposes of this perspiration to the plant we conceive to be the same with the different excretions which take place from the animal body.

This is proved by the diminished weight of plants in the day; and, by placing a glass bell over some mowed grass in a field, although the season be very warm and dry, in two minutes the internal surface of the glass will be covered with a great number of aqueous drops.

CXVI.

That transpiration is chiefly carried on by the leaves, is confirmed from several experiments, from the consideration of their porosity, and from trees wanting leaves suffering no alteration of weight.

CXVII.

The sensible perspiration is generally partial. It consists of an odoriferous exudation in certain bodies, and is perceptible both to the touch and smell. It is not constant, like the former, but is emitted at different times from different plants.

CXVIII.

Thus the leaves are the principal organs of perspiration, and this discharge by day exceeds that by night; for, in the night, inhalation is the general office of the leaves; hence heat and dryness are necessary to this discharge; and when a dew falls it almost wholly ceases.

CXIX.

The quantity of perspired matter in the day varies in different plants, and in some species it is very considerable. Thus a sunflower in the midst of summer is found to perspire, on an average, upwards of a pound a day; and this discharge is greatest in the flowering state.

CXX.

Even a single leaf is found in twenty-four hours to perspire ten grains; a tree with 20,000 leaves must perspire, within a day, one pound; and on the same calculation, an acre of a field containing 30,240 square feet, with plants so disposed, that a foot distance is placed between them, would soon become a lake of water, if every plant perspires eighteen ounces, were this fluid not carried off.

CXXI.

Such a portion of moisture, then, must be supplied from the soil accumulating it as a reservoir at different periods of the season, as well as in summer.

CXXII.

The general facts in regard to vegetable perspiration may be thus collected:

1. That it is particularly promoted by the heat of the sun, and by the exposure of the plant so as to increase it, it soon acquires a mature or ripened state.

2. That this discharge is checked by cold and moisture; hence warmth and dryness are most favourable to growth.

3. In the state of health, vegetable perspiration is strongest; hence weak plants are injured by increasing their moisture.

4. An equal perspiration, proportioned to the aliment absorbed, constitutes the health of a plant; excess or deficiency of this discharge is equally injurious.

CXXIII.

The general use of vegetable transpiration is to free the plant of its hurtful and superfluous parts; and this it does in the manner already pointed out in a former division.

From considering the transpiration or discharge from the leaves of plants, we are next led to review another function of the vegetable system.

CXXIV.

Vegetable Respiration.

This is the vegetable respiration, and it is a function equally necessary to plants as to animals. A proof of this is drawn from the changes they produce on the surrounding air. This function, we formerly noticed, is performed by the leaves, which are not improperly called the lungs of plants.

CXXV.

By them is continually inspired from the atmosphere, dissolved in a watery fluid or dew, mephytic and carbonic air, especially during the night time ; by which the transpiration of the aqueous vapour is diminished ; and the same principles which the leaves thus suck from the atmosphere, are also derived by the roots from the ground.

CXXVI.

A considerable variety, however, in the matter of expiration takes place in different vegetables ; and the air expired differs not only in different plants, but also in different parts of the same plant, depending upon the time of the day, the place, and a variety of other circumstances. Thus the leaves and green parts of plants, in the daylight expire pure vital air ; which is proved by putting a plant into a glass vessel, filled with water, exposed to the sun's rays. A number of air bladders soon occupy the surface of the leaves, and at length rise to the top of the vessel ; where being collected, they afford a respirable element to animals, and candles burn in it very brilliantly. But if the same experiment is made with the same leaves, in the shade, or by night, the air then obtained extinguishes flame, and suffocates animals, being fixed air with a little azote.

CXXVII.

The coloured parts of plants, as well as the

root, bark, wood, flowers, fruits, and seeds, under certain circumstances exposed to the rays of the sun, expire only carbonic air.

CXXVIII.

Many plants, also, especially of the fungous kind, expire inflammable air; for if shut up in a vessel containing vital air, it becomes from their expiration so vitiated as to be lighted by a candle.

CXXIX.

If plants be put into inflammable air, and exposed to the rays of the sun, they emit pure vital air as long as they vegetate.

CXXX.

Hence light and heat, and inflammable air, act as stimuli on plants; and draw from them pure vital air. Simple heat, however, does not seem to contribute any thing, for the evolution of vital air is more powerful in cold than in heat.

CXXXI.

The parts of plants expiring no vital air exhibit a white and varied colour; and the same is conspicuous in a dead or diseased plant.

CXXXII.

Thus by vegetable inspiration is inhaled a nutritious vapour; and by expiration, superfluous or noxious ones, that might prove the source of irritation are thrown out; and for this purpose is vegetable respiration established.

CXXXIII.

The Motion of the Fluids in the Vessels.

The circulation of plants, we formerly described, as taking place in both directions, upwards and downwards, or from the root in the one case rising perpendicularly, and from the leaves in the other passing down into the stem. There is here no centre from which a circulation begins, as in the animal system, and to which its return is regularly made; but still in the fluids of plants a regular course is observed; and this variety of their motions takes place at different times, for the fluids attracted by the leaves descend at night, and those by the root ascend by day. Thus the leaves by night inhale dew, and seldom perspire vapour; and *vice versa*.

CXXXIV.

The proof of the ascension of the sap is drawn from several circumstances, as the erection of flaccid plants, if water be poured on the ground, or if the root only be put into water.

CXXXV.

The artificial colouring of flowers is a proof of the same; for, by impregnating the water absorbed by the root with a colouring matter, it is found to ascend; but the return of this fluid, or its descent, has not been traced so as to render the opposite motions complete to demonstration.

CXXXVI.

From their mode of circulation, the vessels of plants must possess a vital energy, and an irritability of fibre, so as to be affected in their diameter by various stimuli, the same as those of animals. This is clear, both from the ascent of the contained fluid, and from the influence of such stimuli upon them. It is by this action of the vessels the very rapid circulation of the sap in them is accumulated, for the degree of motion indeed varies in every plant, regulated by the proportion of their irritability, and thus it is quickest in those plants which are the most irritable, and *vice versa*.

CXXXVII.

The various stimuli influencing the vascular action or circulation of plants, may be reduced to water, heat, vital air, light, electric matter, and some artificial stimuli, as nitre, sal ammoniac, sulphur, &c. according to the experiments of different authors on this subject.

CXXXVIII.

Vegetable Temperature.

Every plant is possessed of a certain natural temperature connected with its portion of vital principle; and in consequence of this it is enabled to resist the variations of the atmosphere.

CXXXIX.

The power of resisting cold is remarkably dis-

played by the roots of some plants; and, though even incruſted the whole winter with ice, the tree to which they belong bloſſoms vigorously the following ſpring.

CXL.

Nor does the cold, which deſtroys the reſt of the plant, ſeem in the greater number of caſes to have the ſame influence on the root. Even on any part of the evergreens of the northern regions, froſt ſeems to make little impreſſion; and wherever the juices of plants are of a more tenacious nature, they ſuffer leſs from cold than thoſe purely aqueous.

CXLI.

Nor is the power of reſiſting exceſs of heat in ſome plants, leſs conspicuous than that of others in reſiſting extreme cold. Thus graſs will be found cool in the miſt of ſummer, when the ſoil itſelf feels warmed; and cucumbers preſerve a coolneſs to the touch, when every part around them is heated in the extreme. The ſame thing is alſo obſervable in fruits while on the trees.

CXLII.

Thus the temperature of plants ariſes from the abſorption of heat from the atmophere; and hence the coolneſs felt in the ſhade of trees.

CXLIII.

In different plants this power of attraction and retention of heat varies, and in the evergreens of

northern climates an accumulation of latent heat must clearly prevail. The manner in which this heat is drawn into the plant, is not clearly established; but the absorption of caloric must give rise to new combinations in the system of the plant, which, similar to what occurs in animals from respiration, will prove one cause of the increase of temperature.

CXLIV.

The general benefits arising to plants from heat, or an increased temperature, are its augmenting the irritability of their fibres, and occasioning all their functions to be regularly performed, and its rendering also the sap and other fluids fitter to pervade their various vessels. After the death of the plant, a dissolution and new combination of their component parts is produced by it, which putrefaction abundantly shews.

CXLV.

Vegetable Sensibility.

The irritability of plants has been already detailed, or that vital energy inherent in the vegetable fibre. This energy consists in a certain capacity which vegetables possess for receiving the action of certain stimuli, formerly detailed as applied to them; and this capacity we find so strong, as often to occasion them certain motions with a view to receive it. Thus, when a plant is placed in a dark situation, and light only admitted to it at

58 VEGETABLE STRUCTURE.

one part, it is directed in its growth towards this situation from its attraction for that stimulus.

CXLVI.

Hence, similar to the animal fibre, the vegetable possesses a certain degree of sensibility, although no nerve has been traced in its structure. This is considerably varied in different individuals, but in some it appears nearly equal to that of the animal itself, as in the sensitive and moving plants, which seem conscious, by the contraction of their fibres, of the least irritation.

CXLVII.

Connected with this sensibility of the vegetable fibre, vegetables we find also possessed of certain motions, and these consist in their altering in some measure the direction of their parts, which takes place twice a day, bearing themselves always towards the source of heat; but, independent of this, every plant forms a certain twist, or takes a particular direction in its growth, which we cannot account for.

CXLVIII.

This structure of the vegetable fibre requires the constant application of the vegetative powers to continue its excitement; and when these are by the occurrence of night, or the removal of heat and light in a certain degree taken away, a state of relaxation, or lessened vigour, which we term sleep, similar to that in the animal, is induced.

CXLIX.

Vegetable Sleep.

This consists in the bending of their leaves, and sometimes their stem, in different ways; so as to encircle, and at times totally hide their flower; and this state they recover from as soon as the sun communicates to them a certain degree of light and heat; for the degree requisite for their recovery varies in different plants; and hence they come to be unfolded at different hours of the day; yet, even excess of heat and light, as well as its removal to a certain degree, will produce the same state, and thus in the hot-house at mid-day, many are found in this situation.

CL.

These effects, then, depend on their principle of irritability; and the variety in different plants in regard to the possession of more or less of this principle must depend upon the capacity of their fibres to receive it. Hence every plant has a degree of it peculiar to itself, and hence one species is deprived of its irritability by external stimuli, when another possesses the capacity of bearing them with impunity. Many plants also become gangrenous in the spring time after a severe cold night, while others are not in the least hurt, which all afford proof of the same fact.

CLI.

The capacity of receiving this principle is varied

also in plants at different times; and this principle seems general; so that the irritation of one fibre produces a corresponding effect on the rest, varying only in degree, according to the distance from the seat of impression. This is very conspicuous on touching the sensitive plant.

CLII.

Nor is this principle of irritability inexhaustible. It is gradually diminished by the frequent application of a stimulus, and may be even totally exhausted. Thus the motion of plants depends on an irritable muscular structure of their fibres, which, in some of them, as the moving plant, is displayed in a remarkable degree; and in all of them some sense is apparent in the flowers, for those of common dandelion we find turn towards the sun, and expand at a particular time of the day, when the sun is strong to act upon them; and at other times they always close again, especially if the sun comes to be clouded, and there is an appearance of rain.

CLIII.

The peculiar irritations or stimuli that excite this action of the vegetable fibre, were already considered. They consist of light, heat, water, vital air, and electric fluid in a gentle degree. Of this, light seems to exert a remarkable influence, for it is common to vegetables which are made to grow in the inside of houses and on the

soles of windows, to turn their tops towards the light, though the heat of the room be greater than the external air, and the part turned towards the room hotter than the part turned towards the window; so that if the light of the sun acted by heating the vegetables only, it ought to turn the other way, as that side is the hottest. But the plant called balsamy, for instance, which is usually on the side of windows, turns its top towards the window; and if the earthen-pot is turned round, in two days the top is again turned round towards the window: so both the leaves and flowers of plants, and indeed the whole plant, has a disposition to be affected by light, to be stimulated by it, or they have some kind of sensibility which disposes them to turn towards it.

CLIV. . .

This also appears in certain roots, and other vegetables which grow spontaneously in cellars, as in the common leek when it lies till the return of the warm season, when it shoots its fibres in a direction straight towards the door or window where a little light is admitted into the cellar. And for the same reason do trees grow more upright in a thick wood than in any other situation. When the light is admitted from above, they have a tendency directly upwards; and there is no other way to have a tree tall and straight, but by making them grow thick in this manner.

CLV.

Numerous instances of these effects of light in different plants may be adduced, and these effects are most conspicuous at certain times of the day; for the irritability of all plants is generally greatest in the morning and noon, less during excessive heat, and least in the evening.

CLVI.

In the same manner, as certain stimuli increase the irritability of the vegetable fibre, so those of an opposite nature we find diminish and destroy it: This happens also from excess of heat, from cold, from light, from foul air, from electricity, and from opium, according to the degree in which they are applied:

CLVII.

The sleep of plants, by the closing of their petals and leaves, though a fact sufficiently ascertained, takes place at different times with different individuals. Though like that of animals, it generally takes place in the evening and at night, yet in others it only happens when they are exposed to the strongest stimulus of light and heat. Others sleep the whole day, and expand their leaves at sun-set; and others only shut and close their petals some hours in the day. This state of rest is evident in many plants by their external appearance, and it is no doubt connected with their principle of irritability, which being exhausted,

for the time requires this necessary suspension or interval in order to be repaired.

CLVIII.

We have thus considered the general fabric of the vegetable body and the principles of vegetation, or the several powers by which the vegetable is raised and matured; it remains to examine the circumstances of its decay, and afterwards the means of its reproduction.

CLIX.

Decay of Vegetables.

The first of these, or the decay of vegetables, is much regulated by the period of their growth, or of their attaining maturity. Some exist only for a single season, or even for a shorter duration; others are lengthened to two seasons, or three; and the life of others is extended from 100 to 1000 years. Thus vegetables are divided, from the period of their existence, into annual, biennial, and perennial. Trees and fruits arrive often to a considerable age, and acquire in consequence an amazing size. The extent of their age may be often ascertained by examination of their ligneous rings or circles; but this investigation, as already noticed, is difficult in many, and impossible in others.

CLX.

Vegetable life, like the animal, may also, in the course of its progress, be divided into certain stages.

64 . VEGETABLE STRUCTURE.

The first, when the vegetable is soft, succulent, and shews every mark of weakness and tenderness, may be termed the period of infancy.

The second, when it is distinguished by beauty, verdure, and an approaching fullness of growth, forms the period of youth.

The third, when the fruit ripens, constitutes the age of the plant, when a dryness and hardness of every part gradually advances, when the juices are slowly circulated through its system, when its vessels begin to close up, and the energy of their vital power to be gradually diminished.

By the progress of this state, stagnation and corruption take place; and thus, whatever the term of the duration of vegetables, the ultimate change sooner or later must ensue, and they cease to live.

CLXI.

But this extinction of life is not always complete at one time. In many plants it consists only of the parts of fructification; and in most trees the leaves yearly die, and are renewed in the succeeding one. But this partial death must at last be succeeded by the more general one in every part of the plant.

CLXII.

This general extinction of life occasions a decomposition of its principles. It is now subjected to the power of chemical laws, which the posses-

tion of its vital principle enabled it hitherto to resist. Putrefaction takes place, (a process examined in another place,) and in consequence of it new combinations are formed by its parts, and they are prepared into food for the support of that class of bodies to which it formerly belonged.

CLXIII.

The vegetable therefore dies, because it is no longer possessed of the powers of vegetation; and the power of vegetation it displays by its growth, and by its capacity of having its parts unfolded from the seed, when the latter is put into the soil. Thus, if a plant does not change its appearance, or decay, though the marks of vegetation are slight, it possesses still its vital principle, and vegetation will continue to proceed after this apparent suspension. Thus, also, though seeds are kept for years, if they grow when put into the soil, their life has remained all this time unimpaired.

CLXIV.

Vegetable Reproduction.

Having thus traced the circumstances of vegetable decay and death, which appears to happen less from the loss of the vegetative principle, than from the inaptitude of their organs to continue longer the exercise of their functions, it remains to view the means of their reproduction, which are either natural or artificial. The first, or natural mode of perpetuating vegetables, is by the

66 VEGETABLE STRUCTURE.

seeds, termed their germination; but as the rearing them in this way, though the natural one is often tedious, so different modes of artificial propagation have been invented, and these are by roots, by layers, and by grafting.

CLXV.

The first is chiefly employed in the bulbous plants, which have all on their root or stem a number of eyes or gems, from each of which when committed to the soil, a recent growth is produced. The second, or by layers, only takes place in trees, and it consists either in allowing part of a branch to touch the ground when it will take root, or detaching it entirely from the parent, and planting it, when the same effect will follow, which is termed propagation, by cuttings. The third, or that of grafting, is a more nice operation, and proceeds on this general principle, that when plants are brought together, and the bark destroyed, they naturally fix and become connected; and to ensure, therefore, its success, it should be done when the vital energy of the plant is most active, as in the months of June or August, while the parts to be united are accurately applied together, and the exclusion of whatever may diminish the vital principle cautiously guarded against.

CLXVI.

Such is the view offered of the first means by which a knowledge of Botany is attained, con-

sisting in the examination of their vegetable structure and œconomy ; but, as the extent of vegetable creation is unbounded, to render this knowledge of use and applicable to all the varieties of vegetable matters that occur, it is necessary to confine it within certain limits, by reducing them to system, or arranging them under certain general heads ; and in forming this, termed classification, the appellation assigned to each is to be derived from the observation of their similar structure, and, as far as can be done, similarity also of their qualities.

CLXVII.

In marking the latter, the chief importance of botanical knowledge consists ; and this is to be attained, in a certain degree, as we formerly observed, by the application of vegetables to the senses of taste and smell.

CLXVIII.

Organ of Taste.

The taste depends upon the different principles which constitute the humours of the plant, and is different not only in different plants, but in different parts of the same plant.

CLXIX.

The organ of taste comprehends all those parts which extend from the lips to the stomach, and are lined with a delicate excretory membrane, which, in its healthy state, is kept always moist ;

and on the degree of its moisture giving sensibility to the body applied, the acuteness of taste much depends.

CLXX.

Various Sensations of Taste.

The sense conveyed by the impression of taste is considerably diversified, and is generally considered as differing in degree, duration, fixedness, diffusibility, and, in the quick and slow action with which the impression is conveyed. Tastes are also to be considered as in their nature either simple or compound.

CLXXI.

Of simple tastes, 10 different species have been usually observed, which are ;

1. The sweet, or sugar taste.
2. The oleous, or animal taste.
3. The saline, or sea taste.
4. The bitter, or permanent taste.
5. The acid, or succulent taste.
6. The vapid, or insipid taste.
7. The astringent, or vegetable taste.
8. The hot, or acromatic taste.
9. The cold, or frigid taste ; and,
10. The pungent, or burning taste.

CLXXII.

From these, different compound tastes have been formed, and the compound tastes commonly mentioned are ; 1. The austere, 2. the acescent, and 3.

the acrid; and from considering the simple ones, the compound may be easily understood.

CLXXIII.

Sensation of Smell.

Next to the sense of taste in distinguishing the nature of substances, is applied that of smell, which acts only on those substances from which an odour is exhaled; and its application is therefore less universal than that of taste.

CLXXIV.

The matter on which odour depends is of two kinds, being either a common excretion from the vegetable, when by bruising the part it is entirely destroyed; or being a matter contained in certain bags or vesicles formed for that purpose, and which form therefore its repository.

CLXXV.

The diversity of smell, as marked by authors, is nearly as great as that of taste; and the varieties of it usually mentioned, are;

1. The roseaceous.
2. The alfaceous.
3. The goatish.
4. The violet, and their several compounds.

CLXXVI.

In the application of these two senses, attention is to be paid. For to judge of the nature of substances by taste, it is necessary to begin with

those which convey the weakest impression first, and the sapidity of the former should be entirely gone before the application of another; while, as the organ of smell again possesses such a remarkable sympathy with the whole body, so as by the application of certain substances to occasion faintings, &c.; where a body is unknown, caution should be used in examining it, and its odour allowed gradually to affect the part.

PART II.

CLASSIFICATION.

CLXXVII.

IN entering upon the subject of classification, it is necessary that the Botanical Language, or Terms, be fully understood, and for this purpose a more minute description and acquaintance with the various parts of the plant is required than what suited the more general detail in the former part. In doing this, we shall prosecute the method of arrangement pursued by the late Dr. Hope, as adopted in his *Termini Botanici*; for the utility of the student, giving the original of it on one side, and the translation on the other.

CLASSIFICATION. RERUM SERIES.

I. NOMINA PARTIUM.

TERMINI GENERALES, qui omnibus
partibus conveniunt.

II. Termini qui exprimunt modos Durationis.	
III.	Magnitudinis.
IV.	Substantiæ.
V.	Divisionis.
VI.	Directionis.
VII.	Figuræ.
VIII.	Expansionis.
IX.	Loci.
X.	Sitûs.
XI.	Superficieî.
XII.	Marginis.
XIII.	Apicis.

TERMINI SPECIALES, qui quibusdam
partibus tantum conveniunt.

XIV. Termini qui conveniunt Radici.	
XV.	Trunco.
XVI.	Petiolo.
XVII.	Folio.
XVIII.	Pubi.
XIX.	Armîs.
XX.	Braçtææ.
XXI.	Pedunculo.

Sub hoc Inflorescentia et ejus modi.

In tracing then the outlines of a plant for the purposes of Classification, we consider,

I. The NAMES of its Several PARTS.

GENERAL TERMS applicable to all Parts whatever.

II. Terms which express the

mode of	Duration.
III.	Magnitude.
IV.	Substance.
V.	Division.
VI.	Direction.
VII.	Figure.
VIII.	Expansion.
IX.	Place.
X.	Situation.
XI.	Surface.
XII.	Margin.
XIII.	Point, or top.

SPECIAL TERMS which are only applicable to particular parts.

XIV. Terms which apply to the Root.

XV.	Trunk.
XVI.	Petiole.
XVII.	Leaf.
XVIII.	Down, or hair,
XIX.	Armour.
XX.	Floral Leaves.
XXI.	Peduncle.

Under this are included the Inflorescence and its different modes.

XXII. Termini qui conveniunt Fruſtificationi.

Sub hâc continentur.

- A. Calix.
- B. Corolla.
- C. Stamen.
- D. Piſtillum.
- E. Pericarpium.
- F. Semen.
- G. Receptaculum.

XXIII. Termini qui conveniunt Vernationi.**XXIV. Termini addendi.****No. I. PARTES PLANTÆ ſunt,**

- 1 RADIX, organum nutriens plantam.
- 2 TRUNCUS, organum multiplicans plantam.
- 3 RAMUS, diviſio et ſubdiviſio caulis.
- 4 PETIOLUS, fulcrum ſuſtinens folium.
- 5 PEDUNCULUS, fulcrum ſuſtinens fruſtificationem.
- 6 FOLIUM, organum motûs plantæ.
- 7 STIPULA, ſquama quæ baſi petiolorum enaſcentium adſtat.
- 8 CIRRHUS, vinculum filiforme ſpirale, quo planta alii corpori alligatur.
- 9 BRACTEA, folium florale, facie e cæteris foliis recedens.

XXII. Terms which apply to the Fruclification.

Under this are included.

- A. The calyx, or cup.
- B. The carolla, or coloured part of the flower.
- C. The stamina, or chives.
- D. The pistillum.
- E. The pericarpium, or seed-case.
- F. The seed.
- G. The receptacle.

XXIII. Terms which apply to the Vernation.

XXIV. Additional Terms.

No. I. *The PARTS of a PLANT are,*

- 1 The root, that organ that nourishes the plant.
- 2 The trunk or stalk, the organ that multiplies it.
- 3 The branches, or divisions and subdivisions of the stalk.
- 4 The petioles, or stalks that support the leaves.
- 5 The peduncles, or stalks that support the fructification.
- 6 The leaves, which are the organs of motion to the plant.
- 7 The stipula, or small scaly leaf that usually stands at the base of the petioles when they are rising.
- 8 A cirrhus, tendril, or spinal thread, by which a plant is tied to any neighbouring body.
- 9 A bractea, spangle, or florid leaf, differing in its appearance from the other leaves of the plant.

10 PUBES, hirsuties omnis in planta.

11 ARMA, mucrones arcentes animalia, ne lædant plantam.

12 BULBUS, hybernaculum plantæ e rudimento foliorum præteritorum.

13 GEMMA, hybernaculum plantæ e rudimentis foliorum futurorum.

14 FRUCTIFICATIO, constans ex flore et fructu.

Partes Floris sunt,

a CALIX, cortex plantæ in fructificatione præfens.

b COROLLA, liber plantæ in flore præfens.

c STAMINA, viscera pro pollinis præparatione.

d PISTILLUM, viscus fructui adhærens, pro pollinis receptione.

Partes Fructûs sunt,

e PERICARPIUM, viscus gravidum feminibus, quæ matura dimittit.

f SEMEN, rudimentum novæ plantæ pollinis irrigatione vivificatum.

g RECEPTACULUM, quâ partes fructificationis connectuntur.

- 10 The pubes, the down or hairyness of any sort on plants.
- 11 Arma, the armour or sharp points that defend a plant from being hurt by animals.
- 12 A bulb, the winter habitation of a plant, consisting of the remains of its former leaves.
- 13 A gem or bud, consisting of the rudiments of the plant's future leaves.
- 14 The fructification, consisting of the flower and the fruit.

The Parts of a Flower are,

- a The cup, or outer rind of the plant, continued to and present in the fructification.
- b The corolla, or inner rind of the plant, continued to and present in the coloured part of the flower.
- c The stamina, or chives, the organs destined for the preparation of the pollen or flower-dust.
- d The pistil, or organ adhering to the fruit, for the reception of the pollen.

The Parts of the Fruit are,

- e The pericarpium, or seed-case; the bowel or organ containing the seeds, which, when ripe, it lets go.
- f The seed, or rudiment of a new plant, supposed to be vivified by the irrigation or sprinkling of the pollen or flower-dust.
- g The receptacle, or base with which the parts of the fructification are connected.

TERMINI GENERALES.

No. II. DURATIO PLANTÆ *est vel,*

- 15 Annua, intra annum emoritura.
- 16 Biennis, altero anno florens, et dein peritura.
- 17 Perennis, per plurimos annos virens.
- 18 Caduca, brevi decidens, nec per integram æstatem permanens.
- 19 Decidua, peracta unica æstate, casura.
- 20 Persistens, peracta æstate, non casura.
- 21 Sempervirens, per omnia tempora anni virens.

No. III. MAGNITUDO.

“ Admitto rarissime aliam mensuram, quam
 “ proportionalem, inter plantæ partes diversas,
 “ ubi pars hæc vel illa, longior aut brevior,
 “ latior aut angustior fit altera.”

Phil. Bot. p. 262.

No. IV. SUBSTANTIA *est vel,*

- 22 Solida, interne materia duriuscula facta.
- 23 Inanis, interne medulla spongiosa facta.
- 24 Pulposa, materia tenaci facta.
- 25 Carnosa, interne pulpa solidiuscula referta.
- 26 Cartilaginea, e materia sicca pellita.
- 27 Membranacea, e materia sicca pellita.
- 28 Fistulosa, interne tubulosa.

GENERAL TERMS.

No. II. *The DURATION of a Plant is either,*

- 15 Annual, or dying within one year.
- 16 Biennial, or flowering the second year, and then dying.
- 17 Perennial, or flourishing for many years.
- 18 Caducous, or falling down and dying before the end of one season.
- 19 Deciduous, or dying at the end of one season.
- 20 Persisting, not dying after one season.
- 21 Sempervirent, evergreen, or retaining fresh and green through all the seasons of the year.

No. III. MAGNITUDE.

“ I very seldom admit,” says Linnæus, “ any
 “ other than the proportional measure between
 “ the different parts of plants, where this or that
 “ part is longer or shorter, broader or narrower,
 “ than another.” *Phil. Bot.* p. 262.

No. IV. SUBSTANCE is either,

- 22 Solid, filled internally with hard matter.
- 23 Inane, filled only with spongy matter.
- 24 Pulpous, filled with tenacious or glutinous matter.
- 25 Carnous, or fleshy, filled with a hardish pulp.
- 26 Cartilaginous, consisting of gristly matter.
- 27 Membranous, consisting of dry and skinny matter.
- 28 Fistulous, tubulated or hollow within.

No. V. *DIVISIO est vel,*

- 29 Fissa, divisa marginibus rectis.
- 30 2—5 fida, pro numero fissurarum.
- 31 Partita, ad basin fere divisa.
- 32 2—5 partita, pro numero divisionum.
- 33 Lobata, ad dimidium divisa in partes distantes.
- 34 Sinuata, lateribus sinus dilatatos admittens.
- 35 Dichomata, trichomata, &c. in duas tresve partes semper divisa.

No. VI. *DIRECTIO est vel,*

- 36 Recta, flexuris destituta.
- 37 Erecta, fere ad perpendicularum se attollens.
- 38 Obliqua, a perpendiculari vel horizontali linea discedens.
- 39 Ascendens, arcuatim sursum versa.
- 40 Declinata, arcuatim deorsum versa.
- 41 Incurvata, arcuatim introrsum versa.
- 42 Nutans, apice extrorsum versa.
- 43 Reflexa, partibus retrorsum flexis.
- 44 Revoluta, in spiram recurvata.
- 45 Procumbens, debilis terræ innitens.
- 46 Flexuosa, horum versum flexa.

No. V. DIVISION *is either,*

- 29 Fissured, or divided by linear notches, with straight margins.
- 30 Bifid, trifid, &c. to quinquefid, according to the number of fissures.
- 31 Partite, divided almost to the base.
- 32 Bipartite, tripartite, &c. to quinquepartite, according to the number of divisions.
- 33 Lobate, or lobed, divided down to the middle into parts standing asunder.
- 34 Sinuated, admitting of wide sinuses or notches on the sides.
- 35 Dichotomous, trichotomous, &c. divided successively into two, three, or more parts.

No. VI. DIRECTION *is either,*

- 36 Right, or straight, free of bendings.
- 37 Erect, rising nearly to a perpendicular.
- 38 Oblique, departing from a perpendicular, or horizontal line.
- 39 Ascending, or turned archwise upward.
- 40 Declining, or declined, turned archwise downward.
- 41 Incurvated, turned archwise inward.
- 42 Nutant, nodding, having the point turned inward.
- 43 Reflex, having any part turned inward.
- 44 Revolute, rolled back into a spiral line.
- 45 Procumbent, weak and leaning on the ground.
- 46 Flexuose, bent hither and thither.

Termini sequentes pertinent potissimum ad directionem ramorum.

- 47 Patens, exprimit directionem anguli acuti supra gradum.
- 48 Divergens, ad angulum rectum discedens.
- 49 Divaricata, exprimit directionem anguli obtusi.
- 50 Dependens, terram rectà spectans.
- 51 Disticha, duo latera respicientes, licet undique inferti.

- 52 Secunda, omnes ad alterum latus flexi.
- 53 Adpressa, quum cauli paralleli approximantur.

- 54 Coarctata, versus summitatem fere incumbentes.
- 55 Diffusa, ramulis patentibus.

No. VII. FIGURA est vel Superficierum, vel Solidorum, vel ex Analogia mutuata.

a. Superficierum est vel,

- 56 Orbiculata, figuræ circularis.
- 57 Subrotunda, subcircularis, et subglobosa.

- 58 Ovata, cujus diameter longitudinalis superat transversalem, basi segmento circuli circumscripta, apici angustiore.

- 59 Parabolica, parabolam referens.
- 60 Elliptica, ellipsin referens.

The following terms respect chiefly the direction of branches.

- 47 Patent, expresses the direction of an acute angle, or an angle above 45 degrees.
- 48 Diverging, parting at a right angle.
- 49 Divaricated, expresses the direction of obtuse angle.
- 50 Dependent, looking straight to the ground.
- 51 Distich, or distichated, [flowers, leaves, or branches,] turning to the two sides, though inserted all round.
- 52 Sequent, turning all to one side.
- 53 Apprest, approaching so as to be almost parallel to one stalk or trunk.
- 54 Coarctate, almost incumbent towards the top.
- 55 Diffuse, having small pointed branches.

No. VII. FIGURE is that, either of Surfaces, or Solids, or Similitudes.

a. The Figure of a Surface is either,

- 56 Orbicular, of a circular form.
- 57 Subrotund, almost circular; and subglobose, almost spherical.
- 58 Ovate, having its longitudinal diameter longer than the transverse, with the base terminated by a segment of a circle, and the top narrower.
- 59 Parabolical, resembling a parabola.
- 60 Elliptical, resembling ellipse or oval.

- 61 Cuneiformis, sensim versus basin angustata.
- 62 Oblonga, diametro longitudinali aliquoties superante transversalem.
- 63 Lanceolata, oblonga, ab utraque extremitate attenuata.
- 64 Linearis, æquali ubique latitudine.
- 65 Triangularis, quadrangularis, &c. pro numero angulorum.
- 66 Rhombea, forma rhombi.
- 67 Trapeziformis, formā trapezii.
 - b. Solidorum est vel,*
- 68 Filiformis, æquabili ubique crassitie.
- 69 Attenuata, versus apicem crassitiem perdens sensim.
- 70 Subulata, linearis, sed versus apicem attenuata.
- 71 Clavata, versus apicem incrassata.
- 72 Turbinata, obverse conica.
- 73 Globosa, figura sphaeræ.
- 74 Conica, conum referens.
- 75 Teres, cylindrum referens.
- 76 Semiteres, semicylindrica.
- 77 Anceps, angulis duobus oppositis acutis.

- 61 Cuneiform, wedge-shaped, growing by degrees narrower towards the base.
- 62 Oblong, having the longitudinal diameter any number of times longer than the transverse diameter.
- 63 Lanceolate, oblong, and attenuated on either end.
- 64 Linear, every where of equal breadth.
- 65 Triangular, quadrangular, according to the number of angles.
- 66 Rhombeous, or rhomboidal, of the shape of a rhombus.
- 67 Trapeziform, of the shape of trapezium.

b. The Figure of Solids is either,

- 68 Filiform, every where of equal thickness.
- 69 Attenuated, gradually losing its thickness towards the point.
- 70 Subulated, awl-shaped; linear, but attenuated towards the point.
- 71 Clavated, club-shaped, growing thicker towards the point.
- 72 Turbinated, top-shaped, like an inverted cone.
- 73 Globose, globular, like a sphere.
- 74 Conical, resembling a cone.
- 75 Teres, round, like a cylinder.
- 76 Semiteres, half-round, femicylindrical.
- 77 Anceps, two-edged, having the two opposite angles acute.

- 78 Trigona, tetragona, &c. angulis tribus, quatuor, &c. prominentibus longitudinalibus.
- 79 Triquetra, lateribus tribus exacte planis.
- 80 Gibba, utraque superficie convexa, mediante copiosiore pulpa.
- 81 Compressa, pulposa, lateribus magis quam disco complanatis.
- 82 Depressa, pulposa, disco magis quam lateribus complanato.
- 83 Lingulata, linearis, carnosae, subtus convexa.
- 84 Ensiformis, anceps, a basi ad apicem sensim attenuata.
- 85 Acinaciformis, compressa, carnosae, altero margine convexo angusto, altera rectiore crassiore.
- 86 Dolabriformis, compressa, subrotunda, extrorsum gibba, acie acuta, inferne teretiuscula.
- Tubulosa figura, quae plerumque ad corollam pertinent, sunt,*
- 87 Infundibuliformis, conica tubo imposita.
- 88 Campanulata, ventricosa, tubo destituta.
- 89 Inflata instar vesicae, cava.

- 78 Trigonous, tetragonous, &c. having three, four, &c. prominent longitudinal angles.
- 79 Triquetrous, having three exactly plain sides.
- 80 Gibbous, or gibbose, having both upper and under surface convex, by reason of a more copious pulp intervening.
- 81 Compressed, pulpous, having the edges flatter than the disc or middle.
- 82 Depressed, pulpous, having the disc flatter than the edges.
- 83 Lingulated, tongue-shaped ; linear, carnos, convex below.
- 84 Ensisiform, sword-shaped, ancipitous, gradually attenuated, or tapering from the base to the top.
- 85 Acinaciform, sabre-shaped, compressed, carnos, having the one edge convex and thin, and the other straighter and thicker.
- 86 Dolabriform, hatchet-shaped, compressed, subrotund, gibbous on the outside, with the edge sharp, and roundish below.

The tabulated figures that are mostly applied to the corolla are,

- 87 Infundibuliform, funnel-shaped, an inverted cone placed upon a tube.
- 88 Campanulated, bell-shaped, ventricose, without any tube.
- 89 Inflated, hollow, and as it were blown up like a bladder.

90 Rotata, plana, nulli tubo imposita..

c. Ex Analogia, est vel,

91 Cordata, subovata, basi sinu exsculpta, absque angulis posticis.

92 Reniformis, subrotunda, basi sinu exsculpta, absque angulis posticis.

93 Lunata, subrotunda, basi sinu divisa, angulis posticis acutis.

94 Sagittata, triangularis, angulis posticis acutis sinu divisis.

95 Hastata, sagittata, angulis posticis sinu divisis, ad latera prominentibus.

96 Lyrata, transversim divisa in lacinias, quarum inferiores remotiores.

97 Runcinata, pinnatifida, (*i. e.* transversim divisa in lacinias horizontales oblongas), ita ut lobi, antice convexi, postice sint transversi, *e. g.* leontodon.

98 Panduriformis, oblonga, lateribus inferne angustata.

99 Spathulata, subrotunda, basi angustiore lineari.

- 90 Rotated, wheel-shaped, plain, and not placed on a tube.

c. The Figure of Similitudes is either,

- 91 Cordate, heart-shaped, subovate, having a notch cut out of the base, without any posterior angles.
- 92 Reniform, kidney-shaped, subround, having a notch cut out of the base, without posterior angles.
- 93 Lunular, crescent-shaped, subrotund, having the base notched with acute posterior angles.
- 94 Sagittated, arrow-shaped, triangular, having acute posterior angles separated by a notch.
- 95 Hastated, halbert-shaped, sagittated, having the the posterior angles divided by a blunt notch, and prominent toward the sides.
- 96 Lyrated, lyre-shaped, divided across into lacinix, or segments of no determinate form, whereof the under ones are lesser and more remote from one another than the upper ones.
- 97 Runcinated, pinnatifid (*i.e.* divided across into horizontal oblong segments), in such sort — that the segments are convex on the fore-side and transverse behind, *e.g.* the dandelion.
- 98 Panduriform, pandour-shaped, oblong, and contracted or narrowed below.
- 99 Spathulated, subrotund or roundish, with a linear and narrower base.

- 100 **Palmata**, divisa ultra dimidium in lobos sub-
æquales. •
- 101 **Ventricosa**, a lateribus gibba.
- 102 **Deltoidæa**, rhombea, ex quatuor angulis, e
quibus laterales minus a basi distant quàm
reliqui. Confer folia populi nigræ.

No. VIII. *EXPANSIO est vel,*

- 103 **Plana**, superficie æquali.
- 104 **Canaliculata**, supra sulco profundo longitudi-
naliter excavata.
- 105 **Concava**, margine disco arctiore, ut depri-
matur discus.
- 106 **Convexa**, margine disco arctiore, ut eleve-
tur discus.
- 107 **Cucullata**, lateribus ad basin conniventibus,
apice vero dilatatis.
- 108 **Undata**, disco plicis obtusis alternatim flexo.
- 109 **Crispa**, margine luxuriante, ut discus evadat
longior sua rachi.

No. IX. *LOCUS.*

a. Folium est vel,

- 110 **Radicale**, radici insidens.

CLASSIFICATION.

91

- 100 Palmated, divided past the middle into lobes nearly equal.
- 101 Ventricose, gibbous or swelling out on the sides.
- 102 Deltoïd, rhomboïdal, consisting of four angles, of which the lateral ones are less distant from the base than the other two; as the leaves of black poplar.

No. VIII. EXPANSION *is either,*

- 103 Plain, having an equal surface.
- 104 Canaliculated, hollowed above with a deep longitudinal furrow.
- 105 Concave, by the margin being less in proportion than the disk, and the disk of course depressed or pushed downwards.
- 106 Convex, by the margin being less in proportion than the disk, so that the disk is elevated or pushed upwards.
- 107 Cucullated, cowl-shaped, having the edges folded or curling inwards at the base, and spreading at top like a cowl.
- 138 Undated, waved, having the disk alternately bending up and down in obtuse plaits.
- 109 Crisped, curled, by having the margin so luxuriant that the disk becomes longer than its rachis or quill.

No. IX. PLACE.

a. *A Leaf is either,*

- 110 Radical, growing out of the root.

- 111 Caulinum, cauli insidens.
- 112 Rameum, ramo insidens.
- 113 Axillare, sub rami basi insertum.
- 114 Florale, flori proximum.

b. Stipula.

- 115 Lateralis, lateribus petioli inserta.
- 116 Extrafoliacea, infra folium collocata.
- 117 Intrafoliacea, supra folium collocata.
- 118 Oppositifolia, in latere folio opposito collocata.

c. Cirrhus.

- 119 Petiolaris, petiolo insidens.
- 120 Peduncularis, pedunculo insidens, &c. &c.

No. X. *Situs partium plantæ est vel,*

- 121 Oppositus, cum folia, &c. per paria oppositè collocata sint.
- 122 Alternus, per gradus circum ramum exorta.
- 123 Decussatus, ita disposita opposite, ut, apice inspecto, quatuor ordines referant.
- 124 Verticillatus, plura truncum ad genicula circumdantia.
- 125 Bifarius, ad latera rami opposita tantum enata.

- 111 Cauline, growing on the caulis or stalk.
- 112 Ramous, growing a branch.
- 413 Axillary, placed under the base of a branch.
- 114 Floral, next the flower.

b. A Stipula, or Scale, is either,

- 115 Lateral, inserted into the side of a petiole.
- 116 Extrafoliaceous, placed below a leaf.
- 117 Intrafoliaceous, placed above a leaf.
- 118 Oppositifolious, placed on the side of the stalk opposite to the leaf.

c. A Chirrus, or Tendril, is either,

- 119 Petiolar, growing out of a petiole or leaf-stalk.
- 120 Peduncular, growing out of a peduncle, or flower-stalk.

No. X. *The SITUATION of the Parts of a Plant is either,*

- 121 Opposite, when the leaves, &c. are placed in decussated or cross pairs.
- 122 Alternate, growing all round a stalk or branch one after another gradually.
- 123 Decussated, placed opposite in such a manner, that if one look down from the top of the plant, the leaves, &c. represent four distinct rows.
- 124 Verticillated, whirled; leaves, flowers, &c. surrounding the stalk or trunk at the joints in great number like a whirl.
- 125 Bifarious, leaves, &c. growing only on the opposite sides of a stalk or branch.

- 126 Sparfus, absque certo ordine constituta.
- 127 Fasciculatus, plura ex eodem puncta proceduntia.
- 128 Confertus, plurima totam fere superficiem occultantia.
- 129 Distans, situ remota.
- 130 Terminalis, ad apicem posita.

No..XI. SUPERFICIES *est vel,*

- 131 Nuda, setis et pilis destituta.
 - 132 Lævis, superficie æquali. Idem quod plana.
 - 133 Glabra, superficie lubrica.
 - 134 Nitida, glabritie lucente.
 - 135 Lucida, quasi illuminata.
 - 136 Colorata, alio colore quam viridi, (cum is sit color naturalis.)
 - 137 Lineata, nervis depressis.
 - 138 Striata, lineis parallelis leviter excavata.
 - 139 Sulcata, lineis profundis excavata.
- [Qui sequuntur termini usque ad 148, pertinent præcipue ad folia.]*
- 140 Nervosa, vasis simplicissimis a basi ad apicem.
 - 141 Trinervis, tribus nervis in basi concurrentibus.
 - 142 Triplinervis, nervosa, tribus nervis supra basin concurrentibus.

- 126 Sparse, placed without any certain order.
- 127 Fasciculated, pencilled, growing in numbers out of the same point like a pencil.
- 128 Confert, close-ranged, leaves, &c. almost covering the whole surface.
- 129 Distant, parts removed from one another.
- 130 Terminal, placed at the top.

No. XI. *A SURFACE is either.*

- 131 Naked, destitute of setæ or bristles, and pili or hairs.
- 132 Levigated, smooth, of an equal plainness. The same with the plain.
- 133 Glabrous, of a slippery nature.
- 134 Nitid, slippery and shining.
- 135 Lucid, as it were illuminated.
- 136 Coloured, of a colour different from green (when that is the natural colour).
- 137 Lineated, lined, the nerves being depressed.
- 138 Striated, gently furrowed in parallel lines.
- 139 Sulcated, furrowed in deep lines.

[*The following Terms, to 148, belong chiefly to Leaves.*]

- 140 Nervous, having unconnected small vessels, resembling nerves, running from the base to the top.
- 141 Trinerved, having three small nerves meeting at the base.
- 142 Triplinerved, having three nerves meeting above the base.

- 143 Trinervata, nervosa, tribus nervis pone basin concurrentibus.
- 144 Enervis, nervosæ opposita, sine nervis.
- 145 Venosa, vasis multifariam divisis.
- 146 Avenis, venosæ opposita, sine venis.
- 147 Rugosa, rugis referta.
- 148 Bullata, ex rugosa venis contractis ab altera parte concava.

149 Lacunosa, disco depresso venas interjectas.

150 Punctata, adspersa punctis excavatis.

151 Papillosa, tecta punctis carnosis.

152 Papulosa, tecta punctis vesicularibus.

153 Scabra, punctis eminentibus rigidis exasperata.

No. XII. *MARGO est vel,*

- 154 Integerrimus, ipso margine lineari, nec minimum secto.
- 155 Crenatus, margine incisuris sine respectu extremitatis secto.
- 156 Serratus, omnibus incisuris respicientibus extremitatem.
- 157 Ciliatus, setis parallelis longitudinaliter digestis.

- 143 Trinervated, having three nerves meeting below the base.
- 144 *Enervis*, nerveless, the opposite to nervous.
- 145 Venous, having veins or small vessels divided variously, without any regular order.
- 146 *Avenis*, veinless, the opposite to venous.
- 147 Rugose, wrinkled, full of wrinkles.
- 148 Bullated, having the surface, from being rugose, raised up in the form of bubbles, by the veins being contracted, the other side by that means becoming concave.
- 149 Lacunous, pitted, by the disk being depressed between the interspersed veins.
- 150 Punctuated, besprinkled with hollow points.
- 151 Papillous, covered with carnosous or fleshy points.
- 152 Papulous, covered with vesicula or bladder-like points.
- 153 Viscid, besmeared with a glewy moisture.

No. XII. *A MARGIN is either,*

- 154 Entire, linear without the least dent or notch.
- 155 ~~155~~ *Crenated*, having notches without respect to the extremity.
- 156 Serrated, saw-toothed, all the notches and teeth looking towards the extremity.
- 157 Ciliated, having parallel bristles set in a row lengthwise, like eye-lashes.

158 Dentatus, acuminibus patentibus remissis.

159 Repandus, margine flexuoso tamen plano.

No. XIII. APEX *est vel,*

160 Obtusus, intra segmentum circuli terminatus.

161 Emarginatus, crena terminatus.

162 Retusus, terminatus sinu obtuso.

163 Truncatus, linea transversali terminatus.

164 Acutus, terminatus angulo acuto.

165 Acuminatus, apice subulato terminatus.

166 Cuspidatus, terminatus apice setaceo.

TERMINI SPECIALES.

No. XIV. RADIX.

167 Fibrosa, tota constans fibrillis.

168 Bulbosa, bulbo instructa.

169 *a.* Solida.

170 *b.* Squamata, squamis imbricatis.

171 *c.* Tunicata, instructa tunicis extra tunicas.

172 Tuberosa, e partibus carnosis filo basi connexis.

173 Fascicularis, e partibus carnosis basi connexis.

174 Granulata, particulis carnosis composita.

175 Fusiformis, simpliciuscula attenuata.

176 Repens, longe excurrent, hinc inde germinans, articulata, geniculis intercepta.

CLASSIFICATION.

99

158 Dentated, toothed, with the points patent and asunder.

159 Repand, having a plain serpentine form.

No. XIII. *An APEX, or Point, is either,*

160 Obtuse, terminated within the segment of a circle.

161 Emarginated, terminated by a notch.

162 Retuse, terminated by a round bosom.

163 Truncated, terminated by a transverse line.

164 Acute, terminated by an acute angle.

165 Acuminated, terminated by a sublated or awl-shaped point.

166 Cuspidated, terminated by a bristle or prickle.

SPECIAL TERMS.

No. XIV. *A Root is either,*

167 Fibrous, consisting wholly of small fibres.

168 Bulbous, furnished with a bulb.

169 *a.* Solid.

170 *b.* Scal?, with the scales imbricated.

171 *c.* Tunicated, having coats above coats.

172 Tuberos, consisting of fleshy parts connected by threads to the base.

173 Particular, consisting of fleshy parts connected to the base without the intervention of threads.

174 Granulated, composed of small fleshy particles.

175 Fusiform, spindle-shaped, single and tapering.

176 Repent, running out a great way, and budding here and there.

No. XV. TRUNCUS.

- 177 *a.* Caulis, truncus elevans et fructificationem et folia.
- 178 *b.* Culmus, graminibus proprius.
- 179 *c.* Scapus, elevans fructificationem, nec folia.
- 180 *d.* Stipes, truncus in folia transiens.
- 181 Scandens, alta petens, aliis sustinendus.
- 182 Volubilis, spiraliter ascendens per alia corpora.
- 183 Repens, terræ incumbens, radículasque agens.
- 184 Sarmentosus, filiformis, geniculis radican-
tibus.
- 185 Stoloniferus, turiones ad radicem edens.
- 186 Simplicissimus, ramis vix ullis.
- 187 Simplex, continua serie versus apicem ex-
tensus.
- 188 Integer, simplicissimus, ramis angustatis.
- 189 Prolifer, ex apicis centro tantum emittens
ramos.
- 190 Subramosus, ramis paucissimis lateralibus.
- 191 Ramosus, ramis pluribus lateralibus.

No. XV. *A TRUNK is,*

- 177 *a.* A stem or stalk ; a trunk supporting both the fructification and the leaves.
- 178 *b.* A culm, proper to grasses.
- 179 *c.* A scapus or shaft ; a trunk supporting the fructification, but not the leaves.
- 180 *d.* A stipes or stock ; a trunk changing into leaves.
- 181 Scandent, climbing, but needing the support of other bodies.
- 182 Voluble, twining, ascending in a spiral line by the assistance of other bodies.
- 183 Repent, creeping, lying on the ground and sending out roots here and there.
- 184 Sarmentose, full of twigs, filiform, with rooting joints.
- 185 Stoloniferous, putting forth young shoots at the root, or tillering.
- 186 *Simplicissimus*, very single, having scarcely any branches.
- 187 *Simplex*, single, with the branches gathering inwards.
- 188 Entire, very single, with the branches gathering inwards.
- 189 Proliferous, putting forth branches only from the middle of the top.
- 190 Subramose, having only a few lateral branches.
- 191 Ramose, having many lateral branches.

192 *Ramosissimus*, ramis multis absque ordine cumulat.

193 *Virgatus*, ramis debilibus inæqualibus.

194 *Paniculatus*, ramis varie subdivisis.

No. XVI. PETIOLUS.

195 *Alatus*, lateribus dilatatus.

196 *Spinescens*, indurescens et pungens.

No. XVII. FOLIUM *est vel simplex vel compositum.*

a. *Simplex.*

197 *Submersum*, intra aquæ superficiem absconditum.

198 *Natans*, superficiem aquæ incumbens.

199 *Acerosum*, lineare, persistens.

Insertio Foliorum.

200 *Petiolatum*, petiolo ad basin inserto.

201 *Peltatum*, petiolo disco folii inserto.

202 *Adnatum*, pagina superiore basi ramis adnatum.

203 *Connatum*, oppositorum partibus basi utrinque coadunitis.

204 *Coadunitum*, plura inter se connata.

205 *Decurrens*, basi folii deorsum per caulem extensa.

- 192 *Ramosissimus*, very ramose, loaded with numerous branches, without any determinate order.
- 193 Virgated, having small weak pliant branches of unequal length.
- 194 Panicked, having branches variously subdivided.

No. XVI. *A PETIOLE is either filiform, or,*

- 195 Alated, winged, dilated on the sides.
- 196 Spinescent, hard and prickling.

No. XVII. *A LEAF is either simple or compound.*

a. A simple Leaf may be,

- 197 Submersed, hid under the surface of water.
- 198 Natant, swimming, lying on the surface of the water.
- 199 Acerous, chaff-like, linear and persistent.

The Insertion of Leaves.

- 200 Petiolated, having a petiole inserted at its base.
- 201 Peltated, or targetted, having the petiole in the disk of the leaf.
- 202 Adnate, connected with the branches at the base on the upper side.
- 203 Connate, having the opposite pairs united at the base on each side.
- 204 Coadunate, having more than two united.
- 205 Decurrent, having the base of the leaf running along the stalk downwards.

206 Amplexicaule, basi caulem ambiente.

207 Perfoliatum, basi transversim cingente (nec antice dehiscente) caulem.

208 Vaginans, basi formante tubum, caulum vestientem.

b. Compitum, petiolo plura quam unum proferente folia.

209 Articulatum, folio ex apice folii excrefcente.

210 Digitatum, petiolo simplici apici adneciente foliola. Binatum, ternatum, &c. modificationes ejus ex numero.

211 Pedatum, petiolo bifido, latere tantum inferiore adneciente foliola plura.

212 Pinnatum, petiolo simplici lateribus adneciente foliola plura. Bijugum, quadrijugum, &c. foliolis tantum quatuor, octo, &c. &c.

Cum impari, foliolo unico (impari) terminatum.

Abrupte, nec cirrho ~~nec~~ foliolo terminatum.

Cirrhosum, cirrho terminatum.

Foliolis oppositis.

- 206 Amplexicaul, having the base^{*}surrounding or embracing the stalk.
- 207 Perfoliated, having the base surrounding the stalk straight across, without any opening before.
- 208 Vaginating, or sheathing, having the base forming a tube that covers the stalk.
- a. *A Leaf is called Compound, when the same Petiole produces more Leaves than one. It is*
- 209 Articulated, joined, when one leaf joins out of the top of another.
- 210 Digitated, when a simple petiole connects leaflets or small leaves at the top. Binate, ternate, &c. are modifications of it according to the number of leaflets thus connected.
- 2 1 Pedated, when a bifid or forked petiole connects several leaflets only by the interior side.
- 2 12 Pinnated, or feathered, when a simple petiole connects any number leaflets to its sides. Bijugous (double paired), quadrijugous (four-paired), &c. when only four, eight, &c. &c. leaflets are thus connected :-

Pinnated with an odd one, when terminate by a single or odd leaflet.

Abruptly, when terminated neither by a tendril nor by a leaflet.

Cirrhous, when terminated by a tendril.

With opposite leaflets.

Foliolis alternis.

Foliolis interruptis, foliolis alternis minoribus.

Foliolis decursivis, foliolis petiolo decurrentibus.

c. Decompositum.

213 Bigeminum, petiolo dichotomo, apice adnec-
tente foliola bina.

214 Biternatum, duplicato ternatum.

215 Bipinnatum, duplicato pinnatum.

d. Supradecompositum.

216 Tergeminum, cum petiolus bis dichotomus
singulis apicibus bina fert foliola.

217 Triternatum, triplicato ternatum.

218 Tripinnatum, triplicato pinnatum.

STIPULA.

CIRRIUS.

No. XVIII. PUBES.

219 Tomentum, villi intertexti vix conspicui.

220 Pili, ductus excretorei plantæ setacei.

221 Villi pili molles.

222 Lana, pili curvi, densi.

With alternate leaflets.

With interrupted leaflets, when the leaflets are alternately greater and smaller.

With decursive leaflets, or leaflets running down the petioles.

c. A Decomound Leaf is either,

213 Bigeminous, q. double-twin, leaves, when the petiole is dichotomous, or successively divided into two, and every top carried a pair of leaflets.

214 Biternated, doubly ternated.

215 Bipinnated, doubly pinnated.

d. A Supradecomound Leaf is either,

216 Tergeminous, while the petiole, being twice dichotomous, or divided into two, bears a pairs of leaflets.

217 Triternated, thrice ternated.

218 Tri, innated, thrice pinnated.

Stipula, or Scale.

Cirrhus, or Tendril.

No. XVIII. PUBES, the hair, wool, &c. of plants, is
either,

219 *Tomentum*, a flock, fine interwoven hairs scarcely visible.

220 *Pili*, excretory ducts of a plant resembling setæ or bristles.

221 *Villi*, soft hairs.

222 *Lana*, curled thick hairs.

- 223 Barba, pili paralleli.
- 224 Strigæ, pili rigidi plani.
- 225 Setæ, pili rigidi teretes.
- 226 Palea, lamella membranacea.
- 227 Hamus, mucro acuminatus curvatus.
- 228 Glochis, mucro apici retrorsum multidentatus.
- 229 Glandula, papilla humorem excernens.
- 230 Utriculus, vasculum liquore secreto repletum.
- 231 Viscositas, qualitas humoris tenacis.
- 232 Glutinositas, qualitas humoris lubrici.

No. XIX. ARMA.

- 233 Aculei, mucrones pungentes plantæ cortici tantum affixi.
- 234 Furca, aculeis divis in plures.
- 235 Spinæ, mucro e ligno plantæ protrusus.
- 236 Stimuli, mucrones puncturas exflammatorias efficientes, unde pruriginosæ evadant partes.

No. XX. BRACTEA.

- 237 Coma, bractæ caulem terminantes, magnitudine insignes.

- 223 *Barba*, a beard, parallel hairs.
- 224 *Striga*, comb-teeth, stiff rigid plain hairs.
- 225 *Setæ*, bristles, stiff round hairs.
- 226 *Palea*, a membranaceous scale.
- 227 *Hamus*, a hook, an acuminate crooked point.
- 228 *Glochis*, a point or prickle with many teeth turned backwards.
- 229 Glandule, a papilla, or small gland secreting moisture.
- 230 Utricle, a small vessel full of secreted moisture.

- 231 Viscosity, expresses the quality of tenacious moisture.
- 232 Glutinosity, expresses the quality of slippery humour.

No. XIX. ARMA, *The arms of plants are either,*

- 233 *Aculei*, prickles, prickling points affixed only to the bark.
- 234 *Furca*, forks, prickles divided or forked.
- 235 *Spina*, thorns, points or prickles put forth from the wood of the plant.
- 236 *Stimuli*, points producing the inflammatory punctures, where the parts become itching.

No. XX. A BRACTEA is either,

- 237 ~~Cama~~, the bractæ or spangles on the top of the stalk of some plants, remarkable in size compared to the other leaves.

No. XXI. PEDUNCULUS.

- 238 Communis, communis pluribus floribus.
- 239 Partialis, pedunculi communis aliquot flores proferens.
- 240 Pedicellus, proprius floribus in pedunculo communi.
- 241 Cernuus, apice terram spectans.
- 242 Retrofractus, vi quasi ad dependentiam redactus.
- 243 Multiflorus, multos flores proferens.
- 244 INFLORESCENTIA, modus, quo flores pedunculo plantæ adnectuntur.
- 245 a. Verticillus, floribus pluribus caulem annulationem ambientibus.
- 246 b. Capitulum, floribus pluribus in globum congestis.
- 247 c. Fasciculus, colligens flores erectos, parallellos, fastigiato-approximatos.
- 248 d. Spica, flores sessiles alterni in pedunculo communi simplici.
- 249 Simplex, continua, indivisa.
- 250 Composita, pluribus spicillis pedunculo insidentibus.

No. XXI. *A PEDUNCLE is either,*

- 238 Common, to more flowers than one.
- 239 Partial, bearing any number of flowers of the common peduncle.
- 240 A pedicle, proper to flowers in a common peduncle.
- 241 Cernuous, flooping, having the top looking to the ground.
- 242 Retrofract, broken backward, reduced to a depending state as if by force.
- 243 Multiflorous, producing many flowers.
- 244 INFLORESCENCE is the mode in which flowers are connected to the peduncle of a plant; and this is either,
- 245 *a. Verticillus*, a whirl, when a number of flowers surround the plant in a ring.
- 246 *b. Capitulum*, a knot, when a number of flowers are collected together in the form of a globe. It signifies also the upper parts of the fructification of mosses.
- 247 *c. Fasciculus*, a bunch, when erect parallel flowers of equal height are collected together.
- 248 *d. Spica*, a spike, when sessile alternate flowers are placed on a common simple peduncle. A spike is either,
- 249 Simple, continued and undivided.
- 250 Compound, when more small spikes stand on one peduncle.

- 251 **Glomerata, spicillis varie congesta.**
- 252 **Interrupta, spicis minoribus alternis distantibus.**
- 253 **e. Corymbus fit ex spica, dum singuli flores petiolis propriis instruuntur, situ elevato proportionali.**
- 254 **f. Racemus, pedunculo ramis lateralibus instructo.**
- 255 **Unilateris, flores ad alterum latus omnes inferti.**
- 256 **g. Panicula, flores sparsi, in pedunculis diverse divisi.**
- 257 **h. Thyrsus, panicula coarctata in formam ovatam.**
- 258 **i. Umbella, receptaculum, ex eodem centro elongatum in pedunculo filiformes proportionatos.**
- 259 **Simplex, pedunculis omnibus ex uno eodemque receptaculo ortis.**
- 260 **Composita, omnibus pedunculis apice umbellulas gerentibus.**

CLASSIFICATION.

113

- 251 Glomorated, when the small spikes are crowded together without any certain order.
- 252 Interrupted, when the smaller spikes are placed alternately and distant one from another.
- 253 *e.* A *corymbus* is formed of a spike, having every single flower provided with a pedicle of its own, and the whole elevated to a proportionable height.
- 254 *f.* *Racemus*, a cluster, when the common peduncle has lateral branches.
- 255 Unilateral, when all the flowers grow on one side.
- 256 *g.* *Panicula*, a panicle, when the flowers are sparse, and grow on peduncles variously divided.
- 257 *h.* *Thyrusus*, a panicle gathered into an ovate form.
- 258 *i.* *Umbella*, an umbel; a receptacle lengthened out from one centre into filiform peduncles rising to a proportionable height, so as to resemble an umbrella above.
- 259 Simple, when all the peduncles spring out of one and the same receptacle.
- 260 Compound, when every peduncle carries a small umbel on its top.

- 261 Umbellula sessilis, plures pedunculi ex eodem centro ambitu æquali prodeuntes.
- 262 Cyma, receptaculum ex eodem centro universaliter, partialibus vero vagis, elongatum in pedunculos fastigiatos.
- 263 Rachis, receptaculum filiforme flosculos longitudinaliter adnectens in spicam.
- 264 Spadix, receptaculum palmæ enatum intra spatham, in ramulos fructificantes divisum.

No. XXII. FRUCTIFICATIO.

- 265 Vegetabilium pars temporaria generationi dicata.
- 266 Simplex, paucis floribus constans.
- 267 Composita, pluribus flosculis confluentibus.

A. Calix.

- 268 a. Periantheum, calix fructificationi contiguus.
- 269 Fructificationis, stamina germenque includens.
- 270 Floris, stamina absque germine continens.
- 271 Fructus, germen absque staminibus continens.
- 272 Proprium, quemlibet florem respiciens.

- 261 *Umbellula sessilis*, a small sessile umbel, when a number of peduncles rise from the same centre, and stand equally all around it.
- 262 *Cyma*, a receptacle rising from the same general centre, with partial ones here and there, and lengthened into peduncles all equally high at top.
- 263 *Rachis*, a filiform receptacle connecting any number of florets into a long spike.
- 264 *Spadix*, the receptacle of a palm tree rising within a *spatha* or sheath, and divided into fructifying branches.

No. XXII. FRUCTIFICATION is,

- 265 The temporary part of a vegetable destined to generation; and is either,
- 266 Simple, consisting of few flowers.
- 267 Compound, when a number of flowers are set together.

A. *Calyx*, the Cup.

- 268 a. *Periantheum*, a cup contiguous to the fructification.
- 269 Of the fructification, containing the stamens and the germen.
- 270 Of the flower, containing the stamina without a germen.
- 271 Of the fruit, containing a germen without a stamina.
- 272 Proper, belonging to any particular flower; and is either,

- 273 Monophyllum, unico folio absolutum.
- 274 Polyphyllum, pluribus foliis constans.
- 275 Superum, cui germen sub receptaculo.
- 276 Inferum, cui germen supra receptaculum.
- 277 Commune, plures flores congregatos continens.
- 278 Caliculatum, calice quasi alio minore calice ad basin cincto.
- 279 *b.* Involucrum, calix a flore remotus.
- 280 Universale, umbellæ universali subiectum.
- 281 Partiale, umbellæ partiali subiectum.
- 282 Proprium, cuilibet flori subiectum.
- 283 *c.* Gluma, calix graminis, valvis amplexantibus.
- 284 Uniflora, unicum florem amplectens.
- 285 Multiflora, plures flores includens.
- 286 Arista, mucro subulatus glumæ infidens.
- 287 Tortilis, flexa funis instar.

CLASSIFICATION.

117

- 273. Monophyllous, consisting only of one leaf.
- 274. Polyphyllous, consisting of a number of leaves.
- 275. Superior, having the germen below the receptacle.
- 276. Inferior, having the germen above the receptacle.
- 277. Common, containing a number of flowers set together.
- 278. Caliculated, a calyx or cup, having as it were another lesser cup round its base.
- 279. *b. Involucrum*, or wrapper, a cup remote from a flower.
- 280. Universal, set under a partial umbel.
- 281. Partial, set under a partial umbel.
- 282. Proper, set under any particular flower.
- 283. *c. Gluma*, a glume or chaff, the cup of any kind of grass, consisting of valves embracing one another. Either
- 284. Uniflorous, containing a single flower.
- 285. Multiflorous, containing any number of flowers.
- 286. Arista, or awn, a tapering point growing out of the glume or chaff; either straight, or
- 287. Tortile, twisted like a cord.

- 288 *d.* Amentum, ex receptaculo communi paleaceo gemmaceo.
- 289 *e.* Spatha, calix longitudinaliter ruptus.
- 290 *f.* Calyptra, calix musci cucullatus antheræ superimpositus.
- 291 *g.* Volva, calix fungi membranaceus.

B. Corolla.

- 292 Petalum, pars corollæ in plures divisæ.
- 293 Tubes, corollæ monopetalæ pars inferior.
- 294 Limbus, corollæ monopetalæ pars superior dilatata.
- 295 Unguis, corollæ polypetalæ pars inferior, receptaculo affixa.
- 296 Lamina, corollæ polypetalæ pars superior patula.
- 297 Regularis, æqualis et similis figura, situ, magnitudine, et proportionem partium diversa.
- 298 Irregularis, limbi partibus figura, magnitudine, et proportionem partium diversa.
- 299 Ringens, irregularis, in duo labia hians.
- 300 Galea-ringentis, labium superius.

- 288 *d. Amentum*, a catkin, consisting of a chaffy common receptacle like a gem or bud.
- 289 *e. Spatha*, spath or sheath, a cup opening longitudinally.
- 290 *f. Calyptra*, a hood, the cowl-shaped cup of some mosses placed over the anthera.
- 291 *g. Volva*, the membranaceous cup of a mushroom.

B. Corolla, or the coloured part of a flower.

- 292 Petal, a part of a corolla when divided into more parts than one.
- 293 Tube, the inferior part of a monopetalous corolla.
- 294 Limb, the superior spreading part of a monopetalous corolla.
- 295 Unguis, the heel, the inferior part of a polypetalous corolla affixed to the receptacle.
- 296 Lamina, a lappet, the superior spreading part of a polypetalous corolla.
- 297 Regular, equal in figure, magnitude, and proportion of parts.
- 298 Irregular, when the segments of the limb differ in figure, magnitude, or proportion of parts.
- 299 Ringent, irregular, gaping like two lips opened very wide.
- 300 Galea-ringentis, the vizard or upper lip of a ringent corolla.

301 Faux, hiatus inter lacinias corollæ, ubi tubus terminatur.

302 Cruciata, petalis quatuor æqualibus patens.

303 Personata, ringens, sed inter labia palato clausa.

304 Papilionacea, irregularis, petalo inferiore cymbiformi (carina), superiore ascendente (vexillum, lateribus solitariis (alæ).

305 Composita, pluribus constans flosculis intra commune perianthium, supra receptaculum.

306 a. Ligulata, corollulis flosculorum omnibus planis, versus exterius latus.

307 b. Tubulosa, corollulis flosculorum omnibus tubulosis subæqualibus.

308 c. Radiata, corollulis disci tubulosis, ambitu vero ligulatis difformibus.

309 Nectarium, pars mellifera propria.

C. *Stamen.*

310 Filamentum, pars elevans, adnectensque antheram.

- 301 *Faux*, the throat or opening between the segments of a corolla, where the tube terminates.
- 302 Cruciated, crossed, having four equal and patent petals.
- 303 *Personata*, masked, ringent, but shut close between the lips by the palate.
- 304 Papilionaceous, butterfly-shaped, irregular; the inferior petal being cymbiform, or shaped like a boat, (called the *carina* or keel); the superior ascending, (called the *vexillum* or flag); the side petals standing single, (called the *alæ* or wings).
- 305 Compound, consisting of a number of florets on a common receptacle, and within a common perianthium.
- 306 *a.* Ligulated, having all the exterior florets plain on the outside.
- 307 *b.* Tubulous, having all the small corollæ of the florets tubulated.
- 308 *c.* Radiated, having all the small corollæ of the disc tubulous, and those of the circumference ligulated, and of a different form.
- 309 Nectary, the melliferous part, proper to any flower.

C. *Stamen, a Clive.*

- 310 Filament, the part supporting the anthera, connecting it with the plant.

- 311 Anthera, pars floris gravis polline quod matura dimittit.
- 312 Pollen, pulvis floris, humore rumpendus, atomosque elasticos ejaculans. (Genitura plantarum).

D. *Pistillum.*

- 313 Germen, rudimentum fructûs immaturi in flore.
- 314 Superum, corollæ inclusum.
- 315 Inferum, infra corollam positum.
- 316 Stilus, pars pistilli elevans stigma à germine.
- 317 Stigma, summitas pistilli madida humore.

E. *Pericarpium.*

- 318 a. Capsula, pericarpium cavum determinate dehiscena.
- 319 Valvula, paries quo tegitur fructus externè.
- 320 Loculamentum, concameratio cava pro seminum loco.
- 321 Dissepimentum, paries, quo fructus internè distinguitur in concamerationes plures.
- 322 Bicapularis, à numero capsularum.
- 323 Bilocularis, à numero loculamentorum.

- 311 **Anthera**, the part of a flower which is full of pollen, or fine flower-dust, which it discharges as soon as itself comes to maturity.
- 312 **Pollen**, flower-dust, bursting by being brought into contact with moisture, and throwing out elastic atoms. (According to the principles of the sexual system, this is the origin of generation in plants).

D. Pistillum, a Pistil.

- 313 **Germen**, the rudiment of the unripe fruit in a flower. This is either,
- 314 **Superior**, included in the corolla.
- 315 **Inferior**, placed below the corolla.
- 316 **Stile**, the part of the pistil that raises the stigma from the germen.
- 317 **Stigma**, the summit of the pistil bedewed with moisture.

E. Pericarpium, a Fruit case, is a

- 318 *a.* **Capsule**, a fruit-case, hollow, and opening in a certain determinate manner.
- 319 **Valvule**, a screen or defence with which the fruit is covered on the outside.
- 320 **Loculamentum**, a hole or cavity for lodging the seeds.
- 321 **Dissepimentum**, a partition by which the fruit is distinguished or divided within into any number of cavities.
- 322 **Bicapsular**, having two capsules.
- 323 **Bilocular**, having two cavities.

- 324 Tricocca, capsula tribus nodis prortuberans, intusque in tria loculamenta divisa, singulis unicum semen continentibus.
- 325 Didyma, capsulâ duobus nodis extus gibbâ.
- 326 *b.* Siliqua, pericarpium bivalve affigens semina secundum utramque futuram.
- 327 Torulosa, prominentiis hinc inde gibba.
- 328 Parallelum dissepimentum, latitudine et diametro transversali ad valvulas accedens.
- 329 Transversum dissepimentum, angustius ubi valvulæ coarctatæ evadunt concavæ.
- 330 *c.* Legumen, pericarpium bivalve, affigens semina secundum futuram alteram tantum.
- 331 Isthmis interceptum, in varia loculamenta internè transversim distinctum.
- 332 *d.* Folliculus, pericarpium univalve altero latere longitudinaliter dehiscens, nec futuræ semina affigens.

- 324 Tricoccous, a capsule having three protuberant knobs, and divided into three cavities within, each containing one seed.
- 325 Didymous, having two knobs protuberant on the outside.
- 326 *Silqua*, a husk, a fruit-case having two valves, and attaching the seeds along both sutures.
- 327 *Torulosa*, having prominences swelling out on each side.
- 328 *Parallelum dissepimentum*, a parallel partition of equal breadth with the valves.
- 329 *Contrarium dissepimentum*, a cross partition narrower than the valves.
- 330 c. *Legumen*, a pod or swob, a pericarpium having two valves, and attaching the seeds only along the one suture.
- 331 *Isthmis interceptum*, having parts at regular distances straiter than the rest, so as to divide it across into different internal cavities.
- 332 d. Follicle, a pericarpium of one valve, opening longitudinally on one side, and not having the seeds attached to the suture.

333 *e.* Drupa, pericarpium factum, evalve, continens nucem.

334 *f.* Pomum, pericarpium factum, evalve, continens capsulam.

335 *g.* Bacca, pericarpium factum, evalve, femina, cæteroquin nuda, continens.

336 Nidulantia, femina per pulpam sparsa.

337 *h.* Strobilus, pericarpium ex amento factum squamis induratis.

F. Semen.

338 Hilum, cicatrix externa feminis ab ejusdem affixione in fructu.

339 Corculum, primordium novæ plantæ intra semen.

340 Corona, caliculus supra adhærens, quo volitat.

341 Pappus, corona pennacea pilosave volitans.

342 Stipitatus, filo elevante et adnæscente pappum et semen.

- 333 *e. Drupa*, a plum, a pericarpium stuffed with fleshy substance, without any valve, and containing a nut or stone in the middle.
- 334 *f. Pomum*, an apple or pear, a pericarpium stuffed with fleshy substance without valves, and containing a capsule or seed-case in the middle.
- 335 *g. Bacca*, a berry, a pericarpium full of pulpy or soft substance, without valves, and containing seeds, otherwise naked.
- 336 Nidulant, nestling, seeds dispersed through a pulpy or soft substance.
- 337 *h. Strobilus*, a cone, a pericarpium formed by the induration of the scales of a catkin.

F. *Semen, the Seed.*

- 338 *Hilum*, a speck, the external scar or mark of the seed, occasioned by its attachment to the fruit-case before it comes to maturity.
- 339 *Corculum*, the original substance of a new plant within a seed.
- 340 *Corona*, a crown or dress, adhering to the top of a seed, by which it is enabled to fly about after it is ripe.
- 341 *Pappus*, down, a feathery or hairy crown with which it flies.
- 342 *Stipitatus*, stalked, having a thread betwixt it and the down.

- 343 Capillaris, pilis indivisis.
- 344 Plumosus, pilis pennatis constans.
- 345 Cauda, semen terminatum filo.
- 346 Hamus
- 347 Caliculus, tegmentum feminis proprium.
- 348 Nux, femine tecto epidermide ossco.
- 349 Arillus, tunica propria exterior feminis sponte
secedens.

G. Receptaculum.

- 350 Commune, plures flores et fructus continens.
- 351 Compositus flos, receptaculo dilatato, integro,
flosculis sessilibus.
- 352 Aggregatus flos, receptaculo dilatato, flos-
culis subpedicellatis.

BULBUS.

GEMMA.

NO. XXIII. VERNATIO.

- 353 Foliorum dispositio intra gemmam.
- 354 Conduplicata, foliorum lateribus parallel
approximatis.

- 343 Capillary, consisting of fine undivided hairs.
- 344 Plumose, feathery, consisting of hairs feathered on the sides.
- 345 *Cauda*, a tail, a thread or membrane at the end of a seed.
- 346 *Hamus*, a hook.
- 347 *Caliculus*, the interior and proper integument of a seed.
- 348 *Nux*, a kernel, a seed covered with a bony shell.
- 349 *Arillus*, the outer coat of a seed, which falls off of its own accord.

G. Receptaculum, a Receptacle.

- 350 Common, containing more flowers and fruits than one.
- 351 Compound, or composite flower, having the receptacle dilated and entire, the florets sessile.
- 352 Aggregate flower, having the receptacle dilated, and the florets subpedicellated, or standing on very short flower-stalks.

Bulbus, a bulb.

Gemma, a gem or bud.

No. XXIII. *VERNATION is the*

- 353 Disposition of leaves within the bud.
- 354 Conduplicated, doubled together, having the opposite edges approaching each other in parallel lines.

355 *Convoluta*, cuculli in modum spiralia.

356 *Involuta*, lateribus versus paginam superiorem utrinque spiralter contortis.

357 *Revoluta*, lateribus versus paginam inferiorem utrinque spiralter contortis.

358 *Equitans*, marginibus conniventia situ opposito, ut alterum includat alterum.

359 *Obvoluta*, pagina superiore lateribus approximatis, ita ut alterum latus distinguat alterum folium.

360 *Plicata*, in plicas varias coarctata.

361 *Circinalis*, in spiram transversalem coarctata, ut apex centrum obtineat.

No. XXV. TERMINI *addendi*.

362 *Lexus*, liberè flexibilis. Fere synonyma, debilis et flaccidus.

363 *Rigidus*, flexionis impatiens.

364 *Articulatus*, geniculis interceptus.

365 *Enodis*, sine articulis.

366 *Præmorsus*, apice quasi morfu abscisso.

367 *Radicans*, radices agens.

- 355 **Convolutcd**, rolled together spirally like a cowl.
- 356 **Involuted**, rolled inwards, having the edges on both sides rolled spirally, so as to be nearly met on the upper surface of the leaf.
- 357 **Revoluted**, rolled backwards, having the edges on both sides rolled spirally so as to be nearly met on the back of the leaf.
- 358 **Equitant**, riding, when two leaves opposite to each other close their edges, so that the one includes or clasps about the other.
- 359 **Obvoluted**, when two edges of one leaf close on the upper surface, so that one edge divides or lies betwixt the two sides of the other.
- 360 **Plicated**, plaited, gathered into various plaits.
- 361 **Circinal**, rolled spirally from the top to the base, so that the top comes to occupy the centre.

NO. XXIV. GENERAL TERMS *to be added.*

- 362 *Laxus*, flexible at pleasure. *Debilis* (weak) and *flaccidus* (flaccid) are almost synonymous.
- 363 **Rigid**, not enduring to be bent.
- 364 **Articulated**, jointed or knotted.
- 365 *Enodis*, without joints or knots.
- 366 *Præmorsus*, forebitten, having the top as it were bitten off.
- 367 **Radicant**, pushing down roots.

- 368 Squamofus, squamis adspersus.
- 369 Proliferi flores, flore intra alium florem enascente.
- 370 Imbricatæ partes, quoad dimidiam partem invicem teclæ.
- 371 Squarrosus, dicitur de apice et laciniis, quum è plano promineant.
- 372 Fastigiatus, quum trunci, rami, vel pedunculi, ad eandem altitudinem assurgant.
- 373 Refupinatus, quum aliqua pars penitus invertatur.
- 374 Lacerus, dicitur de margine variè diviso segmentis difformibus.
- 375 Laciniatus, dicitur de sinibus disci, variè et indeterminatè in partes secti.

- 368 Squamous, covered with scales.
- 369 Proliferous flowers, having one flower rising within another.
- 370 Imbricated parts, one overlapping another like tiles or flates.
- 371 Squarrose, rough or scurfy, applied to the tops or irregular segments of leaves, &c. when they stand out on all sides.
- 372 Fastigiated, trunks, branches, or peduncles rising all to the like height.
- 373 Resupinated, turned upside down.

- 374 Lacerated, a term applied to the edges of flowers or leaves when divided irregularly as if they were torn.
- 375 Laciniated, divided into parts or segments in an indeterminate manner.

CLXXVIII.

From this view of the Botanical Terms, every plant for the purposes of classification is to be regarded as consisting of root, trunk, leaves, props, fructification, and habit.

CLXXIX.

The root consists of two parts, the caudex and radicula, both of which are farther discriminated by a variety of circumstances, as noticed.

1. The caudex, the body or knob, from which the trunk and branches ascend, is different in different plants, being either solid, bulbous, or tuberosus.

2. The radicle, the spongy or fibrous part of the root, descends from the caudex, and is the source of nourishment, as already noticed.

CLXXX.

The trunk, or production from the caudex, is the seat of the leaves, flowers, and fruit, and is either herbaceous, shrubby, or arboresecent, and is divided into four kinds, under the names of,

1. A caulis, stalk, or stem, as applied to trees, shrubs, and herbs; and, if dividing, it is termed a compound one; if not, a simple one.

2. A culmus, straw; or houlm, as forming the trunk of grasses, elevating both leaves and fructification, varying in its exact appearance, and form, being pointed, round, angular, &c.

3. A scapus or stalk immediately from the root, terminated by the flowers.

4. A stapes or slender trunk, such as the stalk of mushrooms, or even others of a more slender kind.

CLXXXI.

The leaves are the production of the expanded vessels of the stalk, forming a net-like ramification, and covered by a continuation of the epidermis of the plant. They are either simple or compound, and are further marked by a number of occasional distinctions in their figure, situation, insertion, number, divisions, &c.; though a single leaf is one that either adheres singly to a branch, or terminates by a simple expansion, while a compound one has several separate simple expansions, and the place of the attachment of leaves is termed their determination. This is likewise distinguished by various additional circumstances.

CLXXXII.

The props are a part of the plant of considerable variety for its strength, support, and defence; and also as serving the purpose of a secretion. They are divided into

1. A petiolus, or foot-stalk.
2. A pedunculus, or support of a flower.
3. A stipula, husk, or small leaf on each side the foot-stalk base.
4. A cirrhus, clasper, or tendril, in the form of a spiral string or fibre. .

5. The pubes, or such parts as serve for defence and secretion under the form of hair, down, wool, beard, bristles, glands, &c.

6. The arma, or vegetable means of defence, as thorns, prickles, &c.

7. The bractææ, or floral leaves, compared to thin plates of metal.

CLXXXIII.

The fructification, or mode of bearing fruit, consists of the parts formerly noticed, viz.

1. The calyx, or termination of the outer bark, termed the cup, intended to inclose and support the other parts of the fructification. Its seat is the receptacle. It varies in its figure, number, division, and shape of its leaves or segments, and the following names are applied to it according to circumstances.

2. A perianthium (or flower-guard) when surrounding the seat of the fructification; a common perianthium, when connected with several flowers; a proper one, when only with one. There is also the perianthium of the flower, and the perianthium of the fruit.

3. Involucrum, when situated at the foot of an umbel at a distance from the flower, below the common receptacle. It is either universal or partial.

4. An amentum, a thopp or catkin, when it is

composed of a great number of pulpy scales disposed on a slender axis or common receptacle.

5. A spatha or sheath, when it is a sort of calyx growing from the stalk.

6. A gluma or husk, as in corn and grasses, consisting of one or more valves folding over each other like scales.

7. A calyptra or veil, the calyx to mosses, placed over the antheræ of the stamina, and resembling a monk's hood.

8. A valva, or membranaceous infolding of the stalk or pillar, as in fungi.

The calyx is sometimes distinguished with difficulty from the bractæ or floral leaves.

CLXXXIV.

The corolla, or wreath, consists of the inner bark of the plant in the form of variously coloured leaves. Its situation differs, being sometimes in the receptacle, sometimes in the calyx; while the latter forms the defence of the outer part, the corolla does the same to the inner part, inclosed by it. The leaves of the corolla are termed petals, by the different circumstances of which it is particularly distinguished. When it includes the germen, it is understood to be below; and above, when it is placed in the reverse situation, or above the germen. The duration of this part differs also in different plants. In some it remains till the ripening of the fruit, in others it decays with

the opening of the flower, in others it falls off with the stamina and other floral parts, and in some it gradually withers.

CLXXXVI.

Connected with this part is the petalous appendage termed the nectarium, in which the honey of the plant exists. This part displays much variety in its appearance, and has been divided into a number of kinds, as the calycine nectaria connected with the calyx, the corollaceous attached to the corolla, the stamineous, pistillaceous, &c. The proper use of the nectarium is perhaps still unknown; but it seems evidently essential to the fructification.

CLXXXVII.

The stamina, threads, or chives, the next fructiferous part, are the males of the flower, a production from the wood of the plant, and divided into the filament and antheræ.

CLXXXVIII.

The filament, or threaded part of the stamen, is the footstalk by which the antheræ are elevated, and it is sometimes jagged or divided, and is also distinguished by its particular form or figure, by its proportion, and also by its situation.

CLXXXIX.

The anthera at the top or summit of the filament, or of the former part, contains the pollen or

impregnating flour, which renders it a part of the first importance to the fructification, and it is either common to each filament, or one anthera is extended to several; while, in the other extreme, there are sometimes two antheræ to one filament, &c. It is distinguished, also, by the variety in its form or figure, by the number of its cells, and by the manner in which it is fastened to the filament, which differs widely in different individuals.

CXC.

The pistillum, or female part of the flower, proceeds from the pith of the plant. It forms an erect column in the centre of the flower under the stamina, and it is divided into three parts, the germen, the stile, and the stigma.

1. The bud or germen is the base of the pistills, and supports the stile. It becomes at last a seed-vessel, and is properly the rudiment of the pericarpium. It differs in shape, number, and situation, and is above or below the corolla, according to the attachment of the latter.

2. The stile, or part elevating the stigma from the germen, is also distinguished by considerable variety, as from numbers, from divisions, from proportions, and from situation. By this part is the influence of the stamina received and conveyed to the germen. It is generally temporary as the other parts of the flower, but in some individuals it is permanent. Where wanting, the stigma and germen adhere.

The stigma, is properly the head or summit of the stile; and is either situated on the top or side, and moistened with a fluid to retain the pollen of the antheræ. Like the other parts, it differs in its numbers, in its divisions, in its figure or shape, in its length, in its thickness, and in its duration.

CXCI.

The pericarpium, or mature germen, grown to a matrix or seed vessel, is not present in all plants, but its place is often supplied by the other parts. It is situated at the receptacle of the flower, either above or below, and is thus distinguished according to the difference of its structure, into

1. A capsule, or little chest, succulent when green, and when ripe, appearing a dry husky seed vessel, opening also in various ways, and externally shewing a number of valves, and internally a number of cells.
2. A filiqua, or pod, which is a pericarpium of two valves, and is divided into a real filiqua, or long pod; and a filicula, or round pod.
3. A ligumen, or pulse, which is likewise a two-valved pericarpium, with the seeds fastened to short receptacles.
4. A folliculus, or little bag, being a pericarpium of only one valve, and the seeds fastened to a receptacle within the fruit.
5. A drupa, or succulent or pulpy pericar-

pium, having no valve or external opening, but containing within its substance a stone or nut.

6. A pomum, or apple, which is a succulent pulpy pericarpium, without a valve, and containing in its middle a membranous capsule, intersected by cavities containing the seeds.

7. A bacca, or berry, which is equally a pulpy pericarpium without valves, inclosing one or more seeds, without any membranous capsule or covering.

8. A strobilus, or cone, which is a pericarpium formed of an amentum or seed-vessel, formed by woody scales placed against each other in the shape of a cone, opening only at top, and fixed below to an axis or receptacle in the middle of the cone.

CXCII.

The last part of fructification is the seeds, which is the essence of the fruit, deciduous, and possessed of the rudiments of a new vegetable, vitalized by the effect of the pollen. This part differs, like the others, in number, shape, texture, appendage, &c. but it has been commonly distinguished by certain general divisions of

1. The corculum, or heart, which is the principle of the future plant, and consists of two separate parts, the plumula, or ascending part, which becomes the stem; and the rostellum, or descending part, which forms the root in the

shape of a small beak placed without the lobes, but attached to the plumula.

2. The cottyledons, or thick porous side lobes, consisting of farinaceous matter, or the nourishment of the future vegetable, which are afterwards displayed in the form of seminal leaves.

3. The hilum, or eye, being the external mark or scar where it was formerly fastened within the pericarpium.

4. The arillus, or external coat of the seed, which spontaneously falls off, and is said to be sometimes wanting.

5. The coronula, or little calyx, adhering to the top of the seed like a little crown, and assisting it to disperse, fly, or be scattered. This part varies much in its form in different cases.

Two other varieties of seeds occur, viz. nux, a nut or seed inclosed in a shell or hard woody substance, and the seed contained here is called a kernel. Propago, or moss seed, consisting of a naked plumula, with the rostellum inserted into the calyx of the plant.

CXCIII.

The last part of the fructification is the receptaculum, or base which supports and connects the rest, and varies in shape and surface. It is distinguished into the proper receptacle, when it supports the parts of a single fructification only. When the parts of the flower only are joined to it,

it is termed the receptacle of the flower. When the seeds are fastened to it, it is termed the receptacle of the seed. It forms a common receptacle, when again it supports or connects a head of flowers in common.

It is named also umbella, when applied to aggregate flowers, and cyma or a sprout. It is named likewise rachis, when collecting the plants longitudinally into a spike or spadix, when the flower stalk is protruded from a spatha or calyx of that shape.

CXCIV.

Efflorescence, or the mode by which flowers are joined to their several peduncles, whether common or partial, is an important part in botany, and flowers are accordingly either considered as complete or incomplete.

CXCV.

Complete flowers are either simple or aggregate; simple when every part of the fructification is confined to one flower only, aggregate when the flower consists of many plants collected into one head by means of some part of the fructification common to them all. Thus from the different structure, disposition, and other circumstances of the calyx or receptacle, being the only common part to them all, seven divisions are formed;

1. Aggregate, or the formation of flowers, by the union of several lesser ones on partial peduncles, having one common receptacle.

2. Compound aggregate, which consists of several plants placed without partial peduncles, and farther divisions of this term also take place.

3. Umbellate aggregate, which consists of many plants placed on a receptacle on fastigate peduncles that are all produced from the same point.

4. Cymous aggregate, when several fastigate peduncles proceed from the same centre, and rise to an equal height.

5. Amentaceous aggregate, which consists of such flowers as have a long common receptacle, along which are disposed squamæ or scales.

6. Glumose aggregate, where such flowers proceed from a common husky calyx, as grasses.

7. Spadiceous aggregate, where those flowers have a common receptacle protruded from within a common calyx or spathe, along which are dispersed several florets.

CXCVI.

To these aggregate modes of flowering, some others fall to be added, as farther discriminating the species;

1. The $1/\beta$ is the verticillus, when the flowers are placed in whirls at each joint round the common stalk with short partial peduncles.

2. The second is the capitulum, or little head, when many flowers are collected into nearly a globular form or head on the summit of the common stalk.

3. *Spica*, or spike, when the flowers have no partial peduncles, but are arranged alternately round a common single peduncle.

4. *Corymbus*, or cluster, when the lesser peduncles of the flowers proceed from different parts of the common peduncle or stalk, yet form a regular surface at the top.

5. *Thyrus*, or stalk, when the lower peduncles which are longer horizontally, and the upper which are shorter, mount vertically.

6. *Racemus*, or bunch, when the flowers are placed in short partial peduncles, proceeding as little lateral branches from and along the common peduncle.

7. *Panicula*, or tuft, when the flowers are dispersed on peduncles variously subdivided, or when it forms a sort of branching spike composed of smaller ones.

8. *Axillaris*, when flowers proceed from the angle formed by the leaf and the stem.

9. *Terminalis*, when flowers terminate the stalk or branch.

CXCVII.

To the division of inflorescence belongs also the consideration of luxuriant flowers, which are to be considered as varieties and unnatural, and the luxuriance is confined to the corolla or calyx. It is divided into

1. *Multiplicatus*, when the petals of the corolla are so far multiplied as to exclude part of the

stamina, and it is farther termed according to the number of rows of petals.

2. Plenus, when the corolla is so much multiplied as to exclude all the stamina, which are thus changed into petals, and the rostellum is choaked also.

3. Prolifer, when one flower grows out of another; and of this there are several ways in which it takes place, according to the nature of the flower.

CXCVIII.

Besides luxuriance, mutilation also occurs as opposed to it, or the privation of certain parts of the flower, as of the greater part of the petals. This proceeds from the want of heat and other causes.

CXCIX.

With the efflorescence are also connected the sexes of flowers, and they are divided into male, female, hermaphrodite, and neuter.

The first are such flowers as possess stamina.

The second are such as have only pistils.

The third are such as have both parts in the same flower.

The fourth are such as have neither of the parts perfect; and from these sexes of the flowers the plants are also denominated; as

Male plants, or such as bear stamina only.

Female plants, or such as have only pistils.

Hermaphrodite plants, such as have both.

Androgenous, such as have both in the same root.

Polygenous are such as bear hermaphrodite flowers on the same or different roots.

CC.

Habit of plants consists in the agreement of the same genus or natural order in a variety of circumstances; as,

1. In their germination, or in the structure and disposition of their bulb.
2. In their veneration, or the complication of their leaves within the bud.
3. In their estivation, or the state of the bud during summer.
4. In their tortion, or the twisting and bending of their parts.
5. In their nuptials.
6. In their semination, or the shape and other circumstances of the seed and pericarpium.
7. In their placentation, or the number and disposition of the cotyledons.
8. In their variation, or color, size, pubescence, and age.

CCI.

The last part of the plant claiming particular notice is the hybernaculum, or winter lodgement, which defends the young shoot or embryo from external injuries; and is divided into,

1. A bulb or large bud produced under ground, and placed on the caudex of certain plants, being distinguished into several sorts, as squamous, solid, coated, and cauline.

2. A bud or gem, being the embryo plant, seated on the stem and branches, covered with scales. Of buds, three kinds are enumerated;

That containing only the flower,

That containing only the leaf, and

That containing both flowers and leaves.

Annual plants are only renewed from seeds, and buds are confined chiefly to the productions of the cold climates, being unnecessary in the warmer regions.

CCII.

After this full detail of the different parts of the vegetable structure, those which in particular receive the sexual appellations are the antheræ and stigmata.

1. The antheræ correspond to the testes of the male animal, while the pollen performs the office of the semen. This fact is supported by a variety of considerations; for,

The antheræ precede the fruit, and in their maturity they throw out the pollen, which continues as long as the flower lasts, but decays with the perfection of the fruit.

The antheræ are so placed that their pollen may fall on the stigmata or female organ.

The antheræ and stigmata always flourish at the same time.

The same variety is observable in the antheræ, on dissection, as in the seed-vessels.

The removal of the antheræ before the expansion of the flowers renders the fruit either abortive, or the seeds barren.

The figure of the pollen is equally varied, as that of the seeds.

2. That the stigmata, again, are the female organ, is supported by similar observations ;

No fruit ever comes to maturity without the assistance of the stigma, for the germen is only a temporary part, and the stile is often wanting. The stigma, then, is the part receiving the fecundating pollen, as appears from the stigmata being so situated that the pollen may fall upon them, from their corresponding in number to the cells of the pericarpium, from the stigmata decaying on the performance of this function, or on impregnation taking place, from their flourishing along with the antheræ, and from their removal having the same effect, as that of the antheræ, or the destruction of the fruit.

CCIII.

Sexual Functions of Vegetables.

From the sexes of plants forming the foundation of their classification, the sexual functions and parts connected with it claim particular atten-

tion, and the consideration of these functions is a proper introduction to the Linnæan Arrangement.

The first circumstance to be noticed in this view is the mellification of the pistils, which consists in the secretion of a melleous juice appearing at the period of puberty, and besmearing the surface of the stigma. This melleous juice exhibits various appearances in different plants, and transfuses from all parts of the pistil, filling the whole surface of the stigma and the cavity of the stile. It consists of a mucilaginous saccharine solution, and in many cases of pure crystallized sugar.

The presence of this secretion is essentially necessary to the fecundity of the germen; and if dried so as to be in an unfavorable state for the operation, then the germen is not fecundated by the male pollen; for by its viscosity it carries the pollen through the cavity of the stile to the germen, or vegetable ovarium.

From the male flowers in general no melleous secretion is produced, but merely a pollen to impregnate the female.

CCIV.

The Marriage of Plants.

The discharge, then, of the pollen from the anthera upon the stigma constitutes the marriage of plants; and at the age of puberty this is rendered conspicuous, for the mature *Antheræ* sud-

tenly break when their pollen is discharged into the whole ambit or circle of the flower.

The stigmata at the same period swell with a viscid melleous fluid which receives the discharged pollen. The antheræ, when the pollen is discharged, contract, become empty, and decay.

Thus the stigmata are first covered with the pollen, then gradually dry, and, like the antheræ and stamina, decay.

CCV.

The facts that support this view of vegetable marriage are ;

1. Flowers having only stamina never seminate.
2. Flowers having only pistils never secundate, unless the pollen is brought to them.
3. If in a tulip the antheræ be taken away, or the stigma covered during the discharge of the pollen, the seeds in the germen continue to increase ; but when put into the ground, they do not vegetate, but remain sterile.
4. Monstrous flowers, the stamina of which form petals, bear sterile seeds ; but if some of the stamina remain unchanged, then a few seeds only become fruitful.
5. The bilabiated stigmata of plants, at the age of puberty, are seen to unfold themselves, and to remain in this state for some days for the pollen ; and if the male be not present, so that the pollen has access to them, they become marcid.

6. Plants with female flowers alone are never fruitful, unless in the vicinity of a male plant, that the pollen may be sprinkled over it; as in the case of the celebrated palm-tree in the garden of the Royal Academy at Berlin, which flowered and bore fruit for thirty years; but the fruit never ripened, nor did the seeds, when planted, vegetate, (the plant being a female,) till fecundated by a branch from a male; which experiment was successively repeated for two seasons. Many other instances of the same kind are on record.

CCVI.

Fecundation is different in the manner of the operation, according to the situation of the stamina and pistils of the plant.

In hermaphrodite flowers, the discharge of the pollen to the stigma is easy, from the parts of generation being in the same flowers.

In erect flowers, again, the stamina being for the most part very long, and the pistils very short, the exploded pollen easily settles upon the stigma.

In pendulous flowers, the pistils are mostly long, and the stamina very short; thus the pollen discharged from the antheræ falls upon the pistils.

In erect flowers with short stamina and longer pistils, the style in fecundation curves itself downwards, and offers its stigma to the antheræ for the reception of the pollen; after the operation, the style is erected.

In erect flowers, whose stamina are placed horizontally, the stamina so erect themselves, that daily one or other of the antheræ copulate with the stigma, and, the explosion of the pollen having taken place, the stamina again return into their natural horizontal situations.

In flowers of the class syngenesia, the stigma passes through the tube coalesced with the anthera; and the discharge of the pollen takes place in the passage.

In monœcious plants, whose stamina and pistils are situated in different flowers of the same plant, and in diœcious plants, whose stamina and pistils are placed in two separate plants, the translation of the pollen to the female flower is trusted to the winds and insects.

Diœcious plants also flourish before the eruption of the leaves, lest they should drive away the pollen from the stigma of the flowers.

Aquatic hermaphrodite plants, at the time of fecundation, erect their flowers above the surface of the water, lest the pollen of the anthera, and the melleous juice of the stigma, be washed away.

CCVII.

The celebration of the connubium in aquatic plants is most singular. At the period of puberty, the female plant erects its flowers above the surface of the water, while the male flowers, of their own accord, are broken from the masculine plants,

and swim on the surface of the water; the flowers thus open are driven by the winds to the female flowers, and then, but not before, discharge the pollen upon them. The impregnation of the flowers being finished, the female impregnated flowers are withdrawn again to the bottom of the water.

In cryptogamia plants the propagation is not to be observed, but takes place in the parts of the fructification lying concealed in the leaves.

CCVIII.

The Fecundation of the Seed.

Thus the impregnation of the seeds concealed in the germen takes place by means of the pollen of the anthera acting upon them.

The unimpregnated seed in the germen contains a peculiar fluid; and each atom of the pollen is also furnished with a similar prolific vapour.

When it is sprinkled upon the stigma, it is there detained by its viscous fluid; and, when chemically dissolved, it gradually descends through the vessels of the stile, impregnating the contained seeds with the principle of life.

To the fecundation of the seeds, it is only necessary that the pollen be spread over one pistil, and not the whole; for by destroying the whole except one, fecundation of the seeds will take place; neither is it necessary that the pollen of all the antheræ should be spread over the stigmata.

Thus nature has provided so prodigious a quantity of flowers, and also a number of pistils, in order that the fecundation of the seed may never fail.

CCIX.

The Generation of an Hybride Plant.

A plant from an union of two different species of one genus, is called an hybride; and retains some peculiarities from both the parental species.

Thus if the nicotiana rustica, deprived of its stamina, has its pistils sprinkled with the pollen of the nicotiana paniculata, it produces seeds which afford a hybride species, neither resembling the rustica nor the paniculata, but having some of the characters of both.

CCX.

Hybridation succeeds equally well with other plants. Experiments have ascertained that this phenomenon only takes place between different species of the same genus, but not in different genera of plants. The seeds of an hybride plant increase like those of another plant, but, when put into the ground, they do not propagate; hence from them no new species of plants can be produced.

CCXI.

From these facts it is of much importance that plants of a different species, which have the same period of florescence, should be placed at a dis-

tance from each other; for by the confusion or mixture of the pollen, the seeds may be rendered unfit for further propagation of that particular kind.

Vegetable monsters may be generated as well as animal ones, the true causes of which are unknown.

CCXII.

The Parturition of Plants.

The spontaneous delapse of the seed from the plant is termed vegetable parturition.

As soon as the seeds are perfected and matured, the pericarpia burst, and they escape.

The peduncles of fruits, when the seeds are matured, become dry, that the fruit, by the circumstances of its own weight, of the slightest agitation, or of the wind, may fall from the tree.

The very frequent vegetable abortions, both in the form of flowers and immature fruits, seem to be directed by the economy of the plant; for some fructiferous trees produce a stupendous quantity of flowers, the excess of which it is necessary to remove, or that many of them should fall and be destroyed by the wind, cold, dryness, insects, showers, &c. before their advance to maturity, lest the boughs of the tree be broken by their weight, or the tree too much exhausted of its nutritious juices.

The number of seeds which some plants naturally yield is beyond all conception, to the

extent of 3,000, 4,000, and even 30,000 and 40,000.

The seeds, thus matured, are spread on the surface of the earth, either by the elasticity of their own capsules, when they fly of their own accord; or they fasten to other substances by a peculiar apparatus; or are swallowed and not digested, but deposited with the excrement of the animal.

The seed, thus deposited in the earth, evolves at the proper season, when the stimuli necessary to vegetation are present, into its primordial parts; the nutritious juice is attracted from the earth by the absorbing vessels, and the pulp of the seed swells, ruptures, and gradually throws off its arillus.

The power of vegetation, thus excited to action, expands the seminal pulp into the cotyledons; they, like the placenta of animals, prepare a nutritious juice for the nutrition of the other parts.

Next, the same power shoots upwards into the plumule, which constitutes the stem, and downwards into the rosetel, which is prolonged, partly into the root and partly into the basis of the stem, elevating the cotyledons without the earth.

Thus the developement of the plant, as formerly detailed, commences, and continues to proceed in the manner already pointed out.

CCXIII.

Having thus stated the manner of the fecunda-

tion of vegetables, according to the most approved (or Linnæan) opinion, which proceeds on the idea of a distinction of classes in the vegetable, as well as in the animal kingdom ; in order to render this opinion still clearer and more satisfactory, it will be proper to pursue the analogy between the vegetable and animal system as the foundation on which it is raised.

CCXIV.

Analogy of Vegetables and Animals.

In all their leading principles, both of structure and economy, we find the vegetable and animal agree.

CCXV.

General Principles of both.

Thus they are both composed of three essential parts, solids, fluids, and a vital principle.

Of these parts also, the barks and leaves of plants are to the vegetable what the hard and soft parts are to the animal.

Likewise the chyme, chyle, sap, and the secreted juices of the plant, are to it what the chyme, chyle, blood, and the fluids separated from it, are to the animal.

In both also, the vital principle is of the same nature, and seems to be governed by somewhat similar laws.

Plants at the same time, like animals, are both oviparous and viviparous.

CCXVI.

First Appearances of both.

In entering next into the more separate parts of the vegetable and animal structure, we find,

That the gluten in the cotyledon of the seed is to the vegetable the same as the gelatin in the egg is to the animal.

That the vascular structure of the cotyledon of the seed answers the same end as that of the cotyledons and placenta of animals.

That both the seed and egg unfold their respective productions by a developement of pre-existing parts.

That the root of the plant and the intestines of the animal perform to each the same office.

That the seed of the vegetable and the egg of animal likewise agree.

And that the bud in the vegetable is the foetus in the animal.

Proceeding in the same analogy, the bark of a tree may be regarded to the bud what the uterus of the animal is to the foetus.

And inosculations of the vessels of the bud with the trunk of the tree are similar to those of the placenta and cotyledons with the uterus of the animals.

The protrusion of the bud through the bark of the tree is the birth of the plant, and is vegetable

labour, similar to the expulsion of the foetus from the uterus in the animal.

CCXVII.

Mode of the Nutrition of both.

In respect to the mode of nourishment, the analogy between the two kingdoms is still farther confirmed, for both are nourished by a similar set of vessels.

Thus the succous vegetable vessels are similar to the blood-vessels in the animal.

The vegetable leaves agree also with the lungs.

From the common mass of fluids, both in vegetables and animals, or from the sap and blood, proper or peculiar juices or secretions are separated.

Thus the vegetable sap and animal blood agree, and the motion of the vegetable sap is similar to the circulation of the animal blood.

CCXVIII.

Progress of the Growth in both.

In regard to the progress of growth, the individuals of both kingdoms are produced from pre-existing parts; and the growth of each depends on a similar extension of their fibres, which, when attaining a certain prescribed degree of ultimate size, ceases to increase. Thus in the seed or bud there is concealed every part of the plant, as in the ovum every part of the foetus.

CCXIX.

Fecundation in both.

On the principle of fecundation a similar analogy is not less readily discernible, for the subtile vapour of the pollen is to the vegetable what the spermatic aura is to the animal; while the male parts of the vegetable flower resemble, in their office, the male parts of the animal.

In the same manner the vessels of the filament of the plant, like those of the testes of the animal, serve to prepare the prolific vapour; while the vegetable antheræ are compared to the vesiculæ seminales of the animal; and the pistil is similar in its effect to the animal uterus and ovarium; the germen is to the vegetable what the ovarium is to the animal.

Thus, in the bud, the pericarpium and uterus serve similar purposes, and bring the embryo to perfection.

CCXX.

Death of both.

In conclusion, we find that the death of a plant is of a similar nature to that of an animal, and that both are equally subject to this change; while their functions in life are equally dependent upon an irritable principle; and this, again, in both is dependent upon their vitality.

That the cessation of the action of the vital principle in both constitutes death, which renders

them no longer subject to the laws of vital affinity; but, on the contrary, the laws of chemical affinity predominate, by which their organic structure is lost, while their elements become equally in both the source of new productions.

CCXXI.

Linnaean Arrangement.

With this knowledge of the Linnæan nomenclature, we are now prepared for entering on the arrangement of plants; and this arrangement has been formed into 24 classes. To understand the formation of these, it is to be remembered that the stamina of the flowers are the male parts of generation; that the pistils are the female parts, and that the plants that contain both these parts are of the hermaphrodite kind. The annexed Table exhibits the mode of classification founded on this opinion.

CCXXII.

Classes.

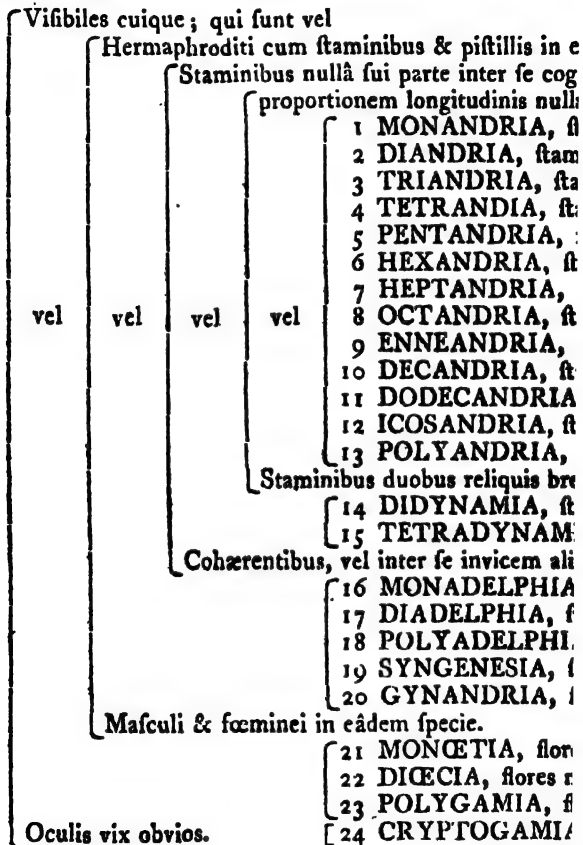
These twenty-four classes thus exhibited comprehend every known genus and species of plants. The first eleven classes are simple in their characters, which all depend on the number of the male parts.

Of the particular classes after this, the 11th includes such plants as are furnished with any number of stamina from eleven to nineteen.

The 12th class furnishes the fruits most in

CLAV

Plantæ proferunt Flores,



(To face p. 162,
Vol. IV.)

Ordines plerumque à fœminis
Monogynia, Digynia, Trigyn
• Numerus fœminarum desumit

esteem; and, as the number of stamina is not limited; an attention must be paid to the other parts of the character of this class, to distinguish the individuals of it from the class Polyandria.

The 13th class has its fruits often of a poisonous nature; which makes it necessary to distinguish it carefully from the 12th class.

The 14th class, though, like the 4th, it has the same number of stamina; yet two of these are uniformly much shorter than the other two, while each particular stamen belonging to the different parts stands directly opposite to one another.

The 15th class resembles the 6th in the number of stamina; but here four of the stamina are uniformly longer than the other two, which last are always opposite to each other.

Between the other classes there is no danger of making mistakes with any of the preceding ones.

CCXXIII.

Orders.

The orders, or 1st division, of the classes in the first thirteen, are taken from the pistils or female parts, as the classes themselves are from the stamina; as monogynia, digynia, trigynia, &c. When the pistils have no stalk or filament like the stamina, they are numbered by the stigmata, which, in this case, adhere to the capsule in the form of small protuberances.

In the 14th class, the mode of forming the

orders is different. It consists of plants having their seeds inclosed in a capsule, or altogether uncovered. Hence they are divided into the naked seeded plants (gymnospermia); and the covered ones (angiospermia).

The orders of the four next classes are taken from the number of their stamina, and therefore termed monadelphia, pentandria, decandria, &c.

The 19th class consists of plants having a compound of small flowers in one calyx; and is accordingly divided, from the variety in those flowers, into polygamia, æqualis, spuria, &c.

The orders of the 21st class are taken from the number of stamina, and also from the names and characters peculiar to some of the other classes, as monœcia, triandria, &c.

The orders of the 23^d are all taken from classical characters, as polygamia, monœcia, &c.

The 24th class is an irregular one, comprehending the four orders of silices, musci, algæ, and fungi.

The genera, or subdivisions of the classes and orders, are taken from the parts of fructification alone. All vegetables that agree in their parts of fructification, are to be put together under one genus; and all such as differ, are to be divided. The characteristic mark of each genus is to be fixed from the number, figure, proportion, and situation of all the parts; and as there are few

genera in which all the parts are constant in every one of the species, some single circumstance that is constant should be fixed on as the essential character.

CCXXIV.

With these general remarks on the classes, orders, and genera, we enter upon the consideration of the different medical articles in modern practice contained in each.

CCXXV.

In detailing them, the method adopted is a short description of the article, and its effects on the organs of taste and smell; the principles of its virtues; the morbid states to which it is applied; and the general forms of its exhibition.

CCXXVI.

CLASS. I. MONANDRIA.

The first class, or Monandria, consists of such plants as bear hermaphrodite flowers, furnished with but one stamen, and consists of two orders.

CCXXVII.

1. Monogynia, comprehending such plants as have but one stile; the individuals of which at present employed in medicine are;

CCXXVIII.

Scitamineæ inferæ Tractu oculari infero.

Amomum.

Corolla 3-partita; labio ovato

Zinziber, a perennial plant from the East Indies, the root of which is only used, and dis-

tinguished into the brown and white kind, conveying an acrid aromatic hot impression, with an agreeable subfragrant smell.

Its qualities reside in a volatile oil, and a small proportion of the resinous principle.

In its nature it is warming, stomachic, and siatogue.

In practice it is employed against dyspepsia, flatulence of the primæ viæ, with or without diarrhæa; externally, in relaxation of parts of the mouth, particularly the uvula.

It is used in four forms of powder, candy, syrup, and tincture. The dose of the first, from 5 gr. to 30; of the second, from 1 scruple to half a scruple; of the third, from half a dram to half an ounce, and of the third from 1 to 2 drams.

CCXXIX.

Cardamomum.

This plant, the seeds of which are employed, is the product of the East Indies. The lesser cardamom is preferred, and the seeds convey an acrid hot aromatic taste, with an agreeable fragrant odor.

Their virtues reside in a volatile oil, and they prove warming and stimulant, but with less tendency to heat than the former article.

In practice, they are prescribed in dyspepsia, in flatulence, and in chlorosis from a phlegmatic cause.

They are exhibited in the form of powder and tincture; from 10 to 30 grs. of the former,* and from one to two drams of the latter.

CCXXX.

Granum Paradisi.

This perennial plant, brought from Guinea and Madagascar, has its seeds only employed, which are contained in its fig-like fruit. They possess a hot pungent taste like pepper, with a more aromatic flavor than the former.

Their virtues reside in a resinous principle more than in a volatile oil.

They are employed in the same morbid situations as the former.

They are exhibited also more in powder than in any other form.

CCXXXI.

Costus Arabicus.

Cor. ringens; labio 3-fido; media emarginata.

The root and bark of this tree, the product of the East and West Indies, possesses a bitter aromatic taste, with a fragrant odor, which even impregnates the urine with a violent smell.

Its qualities reside in a bitter extract and volatile oil.

It is stimulant, warming, and emmenagogue.

It is used in all morbid cases where a permanent stimulant and tonic is required.

It is exhibited in powder or infusion; in the former, in a dose of 1 scruple; in the latter, in 1 scruple to 1 lb. of fluid.

CCXXXII.

Maranta Galanga (Galangal).

Cor. 5-partita, tingens; labio 2-partito magno.

This is the root of an East India tree, and chiefly brought from China in small pieces. It conveys a bitterish hot biting taste like pepper, with an aromatic smell.

The principle of its action is a resin more than an essential oil.

It is stimulant, califacient, stomachic, and emmenagogue. In its recent state it is an errhine.

It is employed in dyspepsia, in lingual palsy, in flatulent cholic, and in lochial pains; as also in sea-sickness, hiccup, and vertigo; externally, it is an application to herpes.

It is exhibited in powder from 10 to 15 grs.; and is also used in tincture.

CCXXXIII.

Curcuma Longa (Turmeric).

Cor. 4-partita; labio ovato. Stam. 4 sterilia.

This is an East India root, of a bitter and somewhat aromatic taste, tinges even the urine of a saffron colour, and is of an agreeable weak smell.

Its qualities reside in an extractive principle, with a small portion of volatile oil.

Its virtues are emmenagogue, diuretic, and deobstruent. It is also a strong die.

It is employed in intermittent fevers, in abdominal obesity, jaundice, and cutaneous diseases.

It is exhibited in the form of powder from 2 scruples to a dram; and in infusion, from 2 drams to 1 lb. of fluid.

CCXXXIV.

Kemferia Rotunda, (Zedoary).

Cor. 6 partita; labio 2-partito
magno.

The root of this plant, which only is used, is brought from the East Indies. It conveys to the taste a warm bitterish aromatic impression, with an agreeable fragrant smell.

Its principle resides in a volatile oil.

Its virtues are stimulant, calefacient, stomachic, and anthelmintic.

It is employed in dyspepsia, in pyrosis, in intermittent fevers, in diseases from relaxation or atony, and in worms.

It is exhibited in powder in doses of 1 scruple, and also in water, spirit, and tincture.

The medical articles of this class belong all to this first order, and none to the second, or *Digynia*, which comprehends such plants as have two stiles.

CCXXXV.

CLASS II. DIANDRIA.

This class consists of such plants as bear herma-

phrodite flowers furnished with two stamina; and it is divided into three orders:

CCXXXVI.

1. Monogynia, comprehending such plants as have but one stile, the medical articles of which are;

CCXXXVII.

Flores Inferi, Monopetali, regulares.

Jasminum Officinale (Common White *Jasmine*).

Cor. 5-fida. Bacca dicocco.

The flowers of this tree are the part used, which possess a highly fragrant odor.

Their qualities are narcotic and sedative.

They are not exhibited in any morbid state. A fragrant oil is prepared from them by infusion.

CCXXXVIII.

Olea Europæa (Common European Olive).

Cor. 4-fida. Drupa.

The fruit of this tree, which grows in the South of France, Spain, Portugal, &c. is the part used. This fruit has an acrid bitter taste, but affords the expressed oil, which has no particular taste or smell.

Its quality lies in its oleous nature; and it is employed as an emollient lubricating fluid, both externally and internally, in dysentery, tenesmus, cough, strangury, inflammation of the bowels, bites, &c. Of late it has been recommended as of use in the plague, applied warm by external friction to the whole surface till a sweat is produced.

CLASSIFICATION.

171

CCXXXIX.

Fl. Inferi, Monopetali, irregularis Fructus, capsulares.

Veronica Officinalis (Officinal Speedwell).

Cor. 4-partito limbo; lacinia inferiore angustiore.

This plant, the production of dry woody places, possesses a bitter and somewhat styptic taste.

Its virtues are those of a mild astringent and expectorant.

It is employed in cough, consumption, pituitous affections of the breast, and in vitiated habits.

Its forms are those of powder or decoction.

CCXLI.

Buccabunga (Brocklime Speedwell).

This perennial plant is useful in its recent state. It imparts a somewhat insipid inodorous taste. It is exhibited at times in the scurvy.

CCXLI.

Gratiola Officinalis (Hedge Hyssop).

Cor. 4-fida, irregularis. Stam. 4;
2 sterilia.

This is a small perennial plant in moist grounds, the leaves of which possess an intensely bitter nauseous taste, with a similar smell.

Its qualities reside in an extractive principle.

Its properties are emetic, cathartic, and anthelmintic.

It is employed in madness, ascitic dropsy, worms, fluxes, and phagedenic ulcers.

It is exhibited in powder from 10 to 15 grs. twice or thrice a day, and in infusion from 3 drams to 1 lb. of fluid.

CCXLII.

Flores Inferi, Monopetali, irregularis Fructus, gymnospermi.

Verbena Officinalis (Officinal Vervain).

Cor. subæqualis. Cal. laciniâ supremâ brevior.

This annual plant is inodorous, and somewhat insipid to the taste. In its qualities it is slightly astringent. It is applied in the scrofulous ophthalmia of infants.

CCLXIII.

Monarda Fistulosa (Purple Monarda).

Cor. ringens; galeâ lineari obvolvante genitalia.

This perennial plant is a native of Canada. It possesses an aromatic bitter taste, with a fragrant odor. Its virtues are those of a nervine, stomachic, and deobstruent. It is employed in intermittent fevers in the form of infusion.

CCXLIV.

Rosmarinus Officinalis (Common Rosemary).

Cor. ringens; galea falcata; stam. curva.

This plant, chiefly a native of Spain, Italy, and the South of France, possesses an aromatic warm taste with a fragrant odor. The leaves and tops of the flowers are the parts used.

Its virtues reside in a volatile oil.

It is stimulant, nervine, antispasmodic, emmenagogue, stomachic, and externally discutient.

It is employed in dyspepsia, chlorosis, hysterics, tertian fever, and in nervous weakness. It is best in infusion, though a distilled water, spirit, and oil, are prepared from it.

CCXLV.

Salvia (Sage).

Cor. ringens; filamenta transverse
p-lilicell'ata.

Salvia Hortensis (Garden Sage).

This plant conveys a bitter (somewhat styptic) taste, with a strong fragrant smell.

Its principle resides in a volatile oil and an astringent extractive matter.

Its qualities are that of a nervine, stomachic, and emmenagogue; externally, it is discutient.

It is employed in the form of a spiritous infusion in lacteal tumors of the breast, in a watery infusion or gargle, in mucous cynanche and relaxation of the gums. It is used also in leucophlegmasia.

CCXLVI.

Salvia Herminum (Purple Red-topped Sage).

This plant, the seeds of which are the part employed, possesses a bitterish mucilaginous taste, with a fragrant smell.

It has been exhibited in some species of ophthalmia.

CCXLVII.

Salvia Sclarea (*Common Clary*).

This is a biennial plant growing in certain parts of Germany. It possesses a fragrant smell, with the same virtues as the common sage, but in a higher degree. Hence it is exhibited in leucorrhœa, colic, and hysteria.

CCXLVIII.

Collinsonia Canadensis (*Nettle-leaved Collinsonia*).

Cor. subringens; labio capillari,
multifido.

This is a perennial plant of North America, the growth the root of which only is used. It possesses an odorous smell, and has been employed in the lochial colic of women.

CCXLIX.

2. The 2d order of this class comprehends such plants as have two stiles, but none of them claim attention for their medical qualities.

CCL.

3. Of the 3d order, or trigynia, consisting of those plants that have three stiles, there is but one genus, viz.

CCLI.

Piper (*Pepper*).

Cal. o. Cor. o. Eacc. 1-sperma.

Nigrum (*Black*).

This is the fruit of a plant growing in Java and Malabar; which, when ripe, and deprived of its

skin, appears white. It impresses an acrid aromatic hot taste.

Its virtue resides in a resinous principle, and the aromatic odor in an essential oil.

Its powers are stimulant, calefacient, and stomachic. It is used as an errhine, and against vermine.

The morbid states to which it has been chiefly applied internally are, intermittent fevers, dyspepsia, and hiccup; externally, in relaxation of the uvula, and against crab-lice.

CCLII.

Longum (Long Pepper).

This plant grows in the same situation as the former, and is hotter and stronger.

CCLIII.

Cubeba (Cubebs).

This is also the dried fruit of an East India plant. It has an acrid aromatic hot taste.

Its virtues are stimulant, calefacient, carminative, and sialogogue.

It is employed in vertigo and morose cases.

CLIV.

CLASS III. TRIANDRIA.

This class consists of such plants as bear hermaphrodite flowers furnished with three stamina. The orders are three :

CCLV.

1. Monogynia, comprehending such plants as have but one stile, the medical individuals of which are ;

CCLVI.

Flores Superi.

Valeriana (Valerian).

Cor. 5-fida, basi gibba. Sem unicum.

Officinalis (Officinal or Wild Valerian).

This perennial plant, the root of which only is used, grows in moist grounds and woods. It possesses a strong smell of an aromatic foetid kind, with a bitterish, subacid, and warm taste.

Its virtue resides in its volatile oil. It is powerfully antispasmodic, narcotic, anthelminthic, emmenagogue, and diuretic.

It is employed against epilepsy, hysteria, convulsion, hypochondriasis, headache, incipient amaurosis, amenorrhæa, worms, hemoptysis, and ulcers.

It is exhibited in the forms of powder in a dose of 1 scruple to a scruple and a half, repeated in the day ; in infusion, in 2 ounces to 1 lb. of fluid ; and in tincture, to half a dram for a dose.

CCLVII.

Phu (Garden Valerian).

This differs only from the former in its weaker powers.

CCLVIII.

Celtica (Celtic).

This perennial plant grows on the higher moun-

tains in the South of Europe. It possesses an acrid bitterish aromatic taste, with a fragrant smell. Its virtues are those of an antispasmodic, diuretic, and anthelmintic. It is chiefly used in Turkey for the baths.

CCLIX.

Flores Inferi.

Tamarindus (Tamarind).

Cor. 3-petaloides Cal. 4-partitus
ligum. succulentum.

The fruit of this Indian tree is the part used. It possesses a strong acid taste, and its virtues reside in an acid and saccharo-mucilaginous extract. Its property is that of proving laxative and refrigerant. It is exhibited in the form of decoction or whey in inflammatory and bilious fevers, in jaundice, and in dysentery.

The doses of these forms are from 2 ounces to 1lb. Of the pulp itself, as a laxative, 2 or 3 drams may be taken to an ounce or more.

CCLX.

Crocus (Saffron).

Cor. 6-petaloides, erecta, patula,
stigmata convoluta colorata.

This plant, the stigmata of which are only used, is produced in the Southern parts of Europe as well as in our own gardens. It possesses a somewhat aromatic taste, with a fragrant smell. Its properties are that of a sedative, hypnotic, gentle stimulant, antispasmodic, and emmenagogue.

It is exhibited in alenic amenorrhæa, in lochial pains, in bastard peripneumony, and vomiting. It is also an external application in ophthalmia.

It is employed in the forms of powder from 10 to 30 grs.; in extract, in 10 to 15 grs.; and in tincture, in half a dram or more.

CCLXI.

Iris (Iris).

Cor. 6-petaloidea, pet. alternis reflexis, stigma petaloideum.

Florentina (Florentine.)

The roots of the florentine iris, the part of this perennial plant used, have a bitter acrid nauseous taste, which is lessened by drying, with a fragrant violet smell. Their virtue resides in an acrid corrosive matter.

The property of the root, in its recent state, is to prove cathartic, diuretic, and expectorant. It is used also as an errhine.

CCLXII.

Iris Fœtida (Fœtid Iris, or Goodwyn).

The thick root of this plant has a bitter disagreeable taste, with a stinking smell. It proves deobstruent, diuretic, narcotic, antispasmodic, and cathartic. It is employed in hysteria, scrofula, and dropsy. Its dose is half an ounce.

CCLXIII.

Iris Germanica (German Iris).

The root of this species, when recent, possesses an acrid bitter nauseous taste.

CLASSIFICATION.

179

Its quality resides in a volatile acrid matter. It proves in its fresh state gently emetic, diuretic, acts as an errhine, is expectorant, and emmenagogue.

CCLXIV.

Iris Pseudacorus (Yellow Water-Flag).

The root of this species is inodorous, but possesses an acrid and somewhat styptic taste. It is used in the form of the expressed juice as a diuretic and cathartic in the dose of 1 dram, and the root again proves astringent. The former is employed in dropsy, the latter in scurvy.

CCLXV.

Gladiolus Communis (Corn Flag).

Cor. 6-petaloidea, pet. superioribus,
3-convergentibus.

The root of this plant has been recommended as an aphrodisiac.

CCLXVI.

Flores Graminei valvales Glumæ Calycinæ.

Cyperus (Cyperus).

Cor. nulla, calc. paleis distichis,
sem. rudum.

Longus (Long).

The root of this tree possesses a pleasing aromatic warm taste, with a fragrant smell. It proves diuretic and emmenagogue, and has been used in ulcers of the bladder, womb, and mouth.

CCLXVII.

Rotundus (Round).

This species agrees with the former, but its powers are weaker.

CCLVIII.

2. Digynia, which comprehends such plants as have two styles, the medical articles of which are :

CCLXIX.

Flores Uniflori Vagi.

Saccharum Officinarum (Sugar Cane).

Cal. lanugine, extus vestitus.

This perennial plant, the expressed juice of which is inspissated and crystallized, grows both in the East and West Indies, and in Egypt. It possesses an agreeable sweet saline taste. Its qualities are stimulant, antiseptic, and nutrient.

It is exhibited in hoarseness and cough. Externally, it is employed in powder against specks of the eye.

It is prepared in the form of simple syrup in the distilled spirit named rum, in the oxalic acid, and it is a universal ingredient in all conserves and syrups.

CCLXX.

Flores Multiflori Vagi.

Avena Sativa (Oats).

Cal. 2-valvis, cor. oblonga valvi, dorso
arista contorto.

The decorticated seeds and flour of this plant is an article of great use in diet. It is of an insipid farinaceous nature. Its qualities are demulcent, emollient, and highly nutrient. It is used in the form of decoction and cataplasm.

CCLXXI.

Dactylis Glomerata Spicata receptaculo subulato.

Secale Cereale (Rye).

Cal. biflorus.

The flour of the seeds makes a useful bread, and in a state of fermentation it is employed in sinapisms.

CCLXXII.

Hordium Distichon (Barley).

Involucr. hexaphyllum triflorum,
flos simplex.

The seeds of this grain are used in three states, of barley, pearl barley, and malt. They are all mucilaginous and farinaceous, and possess a stimulant, emollient, and nourishing quality. The decoction of malt is employed in scurvy.

The three preparations of this grain are, beer, alcohol, and vinegar, or rather alegar.

CCLXXIII.

Triticum (Wheat.)

Cal. multiflorus.

Triticum Hybernum.

The seeds of this plant are used in three states, of flour, starch, and bran. It consists of a farinaceous mucilaginous insipid nature. It possesses an emollient nourishing quality, with a tendency to arcescency. The flour is used in cataplasms; the starch in glysters for dysentery, tenesmus, and strangury; and the decoction of the bran in cough; externally, in baths.

CCLXXIV.

Triticum Repens (Quick-Graft).

The root of this perennial plant is the part used, which possesses a dulcescent inodorous nature, and a diuretic, deobstruent quality. It is employed in abdominal fullness, in intermittent fevers, and in jaundice. In the form of decoction or extract, 2 ounces are proper in the former, to 2 lb. of fluid.

CCLXXV.

CLASS. IV. TETRANDRIA. —

This class consists of such plants as bear hermaphrodite flowers furnished with four stamina, the stamina being of equal lengths; a necessary distinction from the 14th class. The orders of this class are three :

CCLXXVI.

1. Monogynia comprehends such plants of it as have but one stile, the medical articles of which are ;

CCLXXVII.

*Flores Monopetali divocci Superi stellati.**Asperula Odorata (Sweet-scented Woodroof).*

Cor tabulosa, fructus subglobos.

This perennial plant grows in woods. When dried, it possesses a fragrant odor, which it communicates to its infusion, the form in which it is employed, its operation being as a diuretic.

CLASSIFICATION.

183

CCLXXVIII.

Galium (Ladies'-Bed-Straw).

Cor. plana, fructus subglobosi.

Galium Verum (Yellow Ladies'-Bed-Straw).

This plant possesses a fragrant smell and astringent taste. It has also the peculiar quality of coagulating milk. It is employed in epilepsy, bloody urine, and hysteria.

CCLXXIX.

Galium Aparine (Goose-Grass).

The expressed juice is the part of this plant employed. The plant itself possesses an astringent taste. It is employed in scrofula and cutaneous diseases.

Four ounces of the expressed juice are exhibited twice a day.

CCLXXX.

Rubia Tinctorum (Madder).

Cor. campanulata, fructus baccati.

The root of this plant is the part used, the virtue of which resides in an astringent extract, red, and of a bitter sweetish taste.

Its quality is that of an astringent, tonic, and diuretic, displaying the peculiarity of reddening the urine and bones.

It is employed in bastard peripneumony, pituitous diseases of the lungs, and also in affections of the liver, in rickets, in abdominal fullness, in jaundice, and amenorrhœa.

It is exhibited in substance to the extent of half a dram several times a day; and in decoction, in the proportion of 1 ounce to 3 lbs. of fluid, using 1 lb. daily.

CCLXXXI.

Flores Monopetali, Monocárpi, Inferi.

Penæa Sarcocolla (Sarcocolla).

Cor. campanulata. Cal. 2-phyllus,
cap. 4-locularis, 4-valvis.

The concrete juice of this plant, brought from Ethiopia, is the part used.

Its taste is bitter, accompanied with a dull kind of sweetness, without any smell.

It is reckoned stimulant and cathartic, and has been chiefly celebrated as an external application for the agglutination of ulcers.

CCLXXXII.

Plantago (Plantain).

Cor. refracta. Cal. 4-partitus, cap.
2-locularis, circumscissa.

Major (Greater).

Every part of this plant is used. It possesses an insipid and somewhat styptic taste.

Its quality is somewhat astringent. It is employed in the tertian intermittent, and in external ulcerations.

CCLXXXIII.

Plantago Psyllum (Clasmy Plantain).

This species possesses a mucilaginous quality,

and is of an obtending demulcent nature. It is employed against hoarseness and ophthalmia.

CCLXXXIV.

Flores Monopetali Monocarpi Superi.

Sanguisba Officinalis (Common Burnet Saxifrage).

Cor plana. Cal. 2-pyllus, cap. 4-gona inter calycem et corollam.

The root of this plant is the part used. It possesses a styptic taste. Its quality is that of an astringent and tonic. It is employed in hemorrhage, particularly towards the end of dysentery.

CCLXXXV.

Banksia Abyssinica.

The flowers of this plant are the part used. It is the product of Abyssinia. Its virtues are those of an anthelmintic. It is employed in infusion against the ascarides, a handful of the flowers being digested in four pints of beer for 12 hours before use.

CCLXXXVI.

Flores Incompleti Inferi.

Doryslenica Controyerva (Controyerva).

Cal. receptac. plantum carnosum commune.

The root of this plant, the part used, possesses a peculiar aromatic smell, and somewhat astringent warm bitter taste, with a light sweetish kind of acrimony.

The virtues of this root are much extolled as

an astringent, antiseptic, sudorific, stomachic, and stimulant.

It is employed in fevers and eruptive diseases of an atonic nature, as also in dysentery.

Its forms are, its powder from 10 grs. to 1 dram; and its tincture, from 1 to 2 drams.

CCLXXXVII.

Camphorosma Monspeliensis (*Hairy Camphorosme*).

This plant possesses an aromatic quality. Its virtues are nervine, sudorific, and resolvent. It is employed against hysteria, leucorrhœa, asthma, chronic rheumatism, and coryza.

CCLXXXVIII.

Fl. Tetrapetali Superi.

Santolum Album (*Yellow Sanders*).

Cor. 4-petala calyci innata bæccs,
1-sperma.

The interior part of the wood of this Oriental tree, the part used, is of a pleasant smell, with a bitterish aromatic taste and an agreeable pungency.

The virtue of this wood resides in a volatile oil and resinous principle. It is stimulant and sudorific, and employed against rheumatism.

CCLXXXIX.

Alchemilla Vulgaris (*Common Ladies Mouth*).

Cal. 8-fiduc. Sem. 1. calyce inclusum.

The leaves and root of this plant, the parts used, discover to the taste a moderate astringency.

Hence they have been recommended in female discharges, and in alvine fluxes of a passive nature.

CCXC.

2. Digynia, the 2d order of this class, comprehends such plants as have two stiles.

CCXCI.

Cuscuta Europea.

Cor. 4-fida ovata. Cal. 4-fidus.

Capf. 2-locularis circumscissa.

The quality of this production is that of an inodorous bitter subacrid plant, possessing a deobstruent virtue, which has been accordingly tried in intermittent fever and abdominal fullness.

CCXCII.

3. Tetragynia, the 3d order, comprehends such plants as have four stiles.

CCXCIII.

Ilex (Holly).

Cor. 1-petala. Cal. 4-dentatus

bacca, 4-sperma.

Ilex Aquifolium (Common Holly).

The leaves of the holly are the part used. They possess a mucilaginous bitter styptic taste. Their virtue resides in a bitter astringent principle. Their qualities are those of an astringent tonic, and antiseptic. They are chiefly exhibited in the form of decoction, from 1 ounce of the leaves to 1 lb. of fluid; and they are given in stiffness of joints after gout, in obstinate intermittents, and in dyspepsia.

CCXCIV.

Ilex Cassine (Daboon Holly).

The leaves of this tree are of a bitter and somewhat aromatic taste. Their virtues are stomachic, stimulant, and expectorant; in their recent state they prove even emetic.

CCXCV.

CLASS V. PENTANDRIA.

This class consists of such plants as bear hermaphrodite flowers furnished with five stamens, and it is divided into six orders, the medical articles of each of which are:

CCXCVI.

1. Monogynia, which comprehends such plants as have but one stile.

CCXCVII.

Flores Monopetali Inferi, Tetraspermi, Asperifolici.

Lithospermium Officinale (Officinal Cromwell).

Cor. fauce nuda infundib. Cal.
5-partitus.

This plant is insipid and inodorous, and is even little used in medicine.

CCXCVIII.

Anchusa (Alkanet).

Cor. fauce fornicat. infundib. tubo
basi prismatico.

Anchusa Officinalis (Officinal Bugloss).

This plant is entirely of a mucilaginous nature.

CCXCIX.

Anchusa Tinctoria (*Dier's Bugloss*).

This plant is of a red colour, and therefore is more used as a colorant than as a medicine.

CCC.

Cynoglossum Officinale (*Officinal Hounds-tongue*).

Cor. fauce fornicatâ infundib. Serr.
depressa lateri affixa.

This biennial plant, which grows in highways and church-yards, has a strong smell and a mucilaginous taste. In its qualities it is somewhat narcotic, and employed against vermin.

CCCI.

Pulmonaria Officinalis (*Common Lung-Wort*).

Cor. fauce nuda infundib. Cal.
prismaticus.

This perennial plant, which grows in woods, has a saltish bitter mucilaginous taste, but is little used for the complaints its name describes.

CCCII.

Symphytum Officinale (*Common Comfrey*).

Cor. fauce dentata ventricosa.

This perennial plant grows in moist grounds and church-yards. The root is the part used, which abounds in a mucilaginous principle, and possesses the quality of a demulcent and emollient. It is exhibited in the form of decoction in stranguery, dysentery, gravel, spitting of blood, and hematuria.

CCCIH.

Fl. Monopetali inferi Monospermi.

Plumbago Europea (European Lead-Word).

Sem. 1. Stam. valvis infecta, cor.
infundib. stig. 5-fidum.

The root of this perennial plant, the part used, possesses an acrid burning taste. Its virtue, therefore, resides in an acrid principle. Its use is as a caustic in toothach.

CCCIV.

Flores Monopetali Inferi, Angiospermi.

Cyclamen Europæum (Common European Sow-Bread)

Capf. 1 locul. intus pulposa, cor.
reflex., stig. acutum.

The root of this plant, when fresh, has an extremely acrid burning taste, which it loses by drying.

Its quality resides in an acrid volatile principle.

It is employed as a drastic, cathartic, emmenagogue, anthelmintic, and discutient. Externally, it is applied to schirrous and other tumors, and is likewise prepared in ointment. One dram internally is the dose.

CCCV.

Menyanthes Trifoliata (Common Marsh Trefoil).

Capf. 1 locularis, cor. villosa, stig.
2-fidum.

The leaves of this plant, which grow wild in marshy places, is the part used. It possesses an intensely bitter, and a styptic taste. Its virtue

resides in an extractive principle. It is astringent, tonic, anthelmintic, diuritic, and deobstruent. It has been employed in dyspepsia, chlorosis, dropsy, abdominal fullness, jaundice, asthma, chronic, rheumatism, atonic gout, intermittent fevers, scurvy, leprosy, herpes, and malignant ulcers. It is exhibited in the form of infusion or extract; in the former, 1 scruple being allotted to 1 lb. of fluid, and 2 drams of the latter forming a dose.

CCCVI.

Lyfimachia Numularia (*Creeping Loose Stripe*).

Capf. 1 locularis, cor. villosa, stig. obtusum.

This perennial plant, which grows in shady moist places, possesses a slight acidity and acrimony to the taste. Its quality is astringency, and it has been employed in leucorrhœa.

CCCVII.

Anagallis (*Red Pimpernell*).

Capf. 1 locularis circumscissa, cor. rotata, stigma capulatum.

This inodorous herb, which should be gathered before its flowers are unfolded, possesses an acrid nauseous taste. It is employed in epilepsy, melancholy, and jaundice. It is exhibited in the form of powder in 1 dram four times a day; in extract, from 2 to 3 grs.; and in infusion, in the proportion of 2 grs. to the 1 lb. of fluid.

CLASSIFICATION.

CCCVIII.

Spigelia (Worm-Grass).

Capf. 2 locularis didyma, cor. infundib. flig. 2-fidum.

Spigelia Anthelmia Annua (Annual Worm-Grass).

This West India plant possesses a foetid taste, and is of a narcotic anthelminthic quality. It is exhibited against worms.

CCCIX.

Spigelia Morilandica (Indian Pink).

This perennial American plant is more used than the former, and possesses the same qualities. It is given in powder to the extent of 10 grs ; in infusion, in the proportion of 2 grs. to the 1 lb. of fluid ; and in decoction, in half an ounce to the 1 lb.

CCCX.

Ophiorrhiza Mungos (Mungos).

Capf 2 locularis, 2 partitus, cor. infundib flig 2-fidum.

The root of this perennial plant, from the East Indies, possesses a saline and intensely bitter taste. Its qualities reside in a bitter extractive principle. It is exhibited in mania and hydrophobia.

CCCXI.

Convolvulus (Bird Weed).

Capf. 2 locul., 2 sperma, cor. campanulata, flig. 2 fidum.

Convolvulus Jalappa (Jalap).

The root of this plant, the production of New

CLASSIFICATION.

193

Spain, is the part of it used. It has both a nauseous taste and disagreeable smell. Its quality resides in an acrid resinous principle. It is employed as a cathartic and anthelmintic, and is exhibited in powder from half a scruple to 2 grs.; resin, in a few grains.; and also in tincture, in a scruple or more.

CCCXII.

Convolvulus Scammonia (Scammony).

The inspissated juice of this perennial plant, chiefly procured by incision of the root, is the part used. It is the production of Asiatic Turkey, and possesses an acrid bitter taste, with a nauseous smell. Its virtue resides in an acrid milky juice and a resinous gummy principle. It is a powerful cathartic, being of a drastic nature. It is given in doses from ʒ to 20 grs.; and its resin, mixed with liquorice powder, is termed diagridium.

CCCXIII.

Fl. Monopetali Superi.

Cinchona (Bark).

Caps. 2. locul. intus dehiscens, cor.
hirsuta, stigm. simplex.

Cinchona Officinalis (Peruvian Bark).

The tree affording this bark is the production of Peru, and of a mountainous situation. It possesses a strongly bitter taste, with an astringency. The principle of its action resides in an astringent resin and bitter mixed. It is a power-

ful antiseptic, tonic, astringent, and stomachic. It is used in a vast variety of morbid states, as fevers of all kinds, particularly the intermittent, putrid, &c. in weakness, in spasms, chincough, chronic diarrhæa, gangrene, phagedenic ulcers, chronic rheumatism, and other diseases. It is exhibited internally, and used also externally. Internally, it is prepared in almost every form. In powder, the dose is from 15 gr. to half a dram; in extract, from half a dram to 2 scruples; in infusion or decoction, 1 ounce of the bark is the proportion to 1 lb. of fluid.

CCCXIV.

Cinchona Caribbea (*West India Bark*).

This species, the product of Jamaica and St. Lucie, possesses a somewhat astringent taste, with more bitter and less aroma than the former. Its qualities are astringent, tonic, and stomachic. It is employed in the same diseases as the former.

CCCXV.

Cinchona Angustifolia.

This species is the growth of St. Domingo. Its taste is also intensely bitter, with little aroma. Its qualities are those of a tonic and stomachic. It is employed in fevers of the intermittent and remittent kind, and in typhus.

CCCXVI.

Cinchona Ceymbifera.

This species much resembles the former. It

possesses a similar taste, and is employed in the same diseases.

CCCXVII.

Cinchona Floribunda.

This species is much the same as the St. Lucie bark, both in taste, qualities, and use.

CCCXVIII.

Cinchona Montana.

This is the product of Martinique and Guadeloupe. It is so intensely bitter as to prove both emetic and cathartic.

CCCXIX.

Cinchona Tecamez.

This species possesses an aromatic bitter taste, with an aromatic smell. In other respects it resembles the other kinds.

CCCXX.

Coffea Arabia (Coffee).

Bacca 2. sperm. sem. arillata. Cor.

Hippocrat. stigm. 2 partitum

The seeds or berries of this Arabian and West India tree, are much employed in a torried state, and possess a fragrant aromatic smell.

Its qualities are those of a stimulant, calefacient, and carminative. It is used, in the crude state, against cattarrh, rheumatism, and amenorrhæa; but the infusion of the torried seeds is most in repute, being exhibited to procure sleep, in heart-burn, headach, costiveness, and abdominal ob-

fty; and, in a very strong state, as 1 ounce to 3 ounces of fluid, to relieve spasmodic asthma.

CCCXXI.

Psychotria Emetica (Ipecacuan):

Bacca 2. sperm sem subcata. Cor.
infundib. stig. emarginatum.

This perennial plant is the production of South America. The root, the part used, possesses a bitter slightly pungent taste, with a nauseous smell. Its virtue resides in a resinous principle, and it is chiefly employed as an emetic of mild and safe operation. It is exhibited in spasmodic asthma, in spasms of various kinds, in the commencement of fevers to cut short their progress, and in small doses in menorrhagia, hemoptysis, dysentery, diarrhæa, and chincough. The dose, as an emetic, of the powder, is from 15 grs. to 1 scruple; and of the wine, from half an ounce to 1 ounce.

CCCXXII.

Lonicero (Honeysuckle).

Bacc. 2 locul. subrotunda, cor. un-
æqualis. Stigm. capitatum.

*Lonicero Diervilla (Yellow-Flowered Upright Honey-
suckle).*

The roots of this species, the production of Canada, possess a nauseous taste and smell. They are used in Canada in syphilis, gonorrhæa, and dysuria.

CLASSIFICATION.

197

CCCXXIII.

Lonicera Symphorecarpus (*Shrubby St. Peter's Wart*).

The roots of this species, produced in Carolina, are styptic or slightly astringent, and employed in cases of intermittent fever.

CCCXXIV.

Fl. Inferi Angiosperm.

Verbascum Thapsus (*Great Broad-Leaved Mullein*).

Caps. 2 locularis, cor rotata, stigm.
obtus, flam. declinata.

This biennial plant, of which the leaves and flowers are the part used, possesses a somewhat bitterish taste. It is of a mucilaginous, emollient, and demulcent nature; and employed in coughs, and cases of acrimony, and irritation, in the form of infusion, having the proportion of 1 ounce of the plant to 1 lb. of fluid.

CCCXXV.

Datura Stramonium (*Common Thorn Apple*).

Caps. 2 locular., 4. valvis, cor
infundib. cal deciduus.

This annual plant, whose seed and leaves are used, possesses a nauseous bitter taste and poisonous smell.

Its qualities are those of a strong narcotic poison, which resides in an acrid principle, and this quality it displays in whatever manner applied, occasioning alienation of the mind to ensue. It has been employed in melancholy, in childbed-

madness, in epilepsy, in cancer, in tumors of the anus, &c. It is exhibited in the form of powder from half a gr. to 6 grs.; and also in the inspissated juice.

The acetous and nitric acids are its antidotes.

CCCXXVI.

Hyoscyamus (Henbane).

Capf. 2 locularis operculata, cor,
infundib. stigm. capitatum.

Hyoscyamus Albus (White Henbane).

The leaves and seeds of this poisonous plant are the parts employed, Its qualities are those of a narcotic poison, and it is chiefly exhibited in the form of extract in amaurosis and cataract.

CCCXXVII.

Hyoscyamus Niger (Black Henbane).

This plant possesses a rank or poisonous smell. Its fresh leaves are chiefly used. Being a strong narcotic poison, it is sedative, antispasmodic, and deobstruent. It is employed in palsy, swellings of the anus, active hemorrhages, in convulsion, epilepsy, and madness; and externally, in schirrus. It is commonly exhibited in the form of extract from half a gr. to 1 scruple, and also in the oil.

CCCXXVIII.

Nicotiana Tabaccum (Tobacco).

Capf. 2 locularis, cor. infundib.,
stigm. emarginatum.

The dried leaves are the part of this annual

plant in use. It possesses an acrid nauseous taste, and at the same time a similar nauseous smell. Its quality resides in an acrid narcotic principle. It proves diuretic, emetic, drastically cathartic, stimulant, errhine, vermifuge, deobstruent, sialogogue, narcotic. Internally, it is exhibited in the forms of tincture, wine, or extract, against dropsy, schirrus, jaundice, and catarrhal chronic affections. Externally, it is employed in the form of smoke in hernia and costiveness; and in the form of lotion in the itch, ozena, and phymosis.

CCCXXIX.

Atropa (Atropa).

Bacca a locularis stem. distantis
incurvata.

Atropa Mandragora (Mandrake).

The acrid root of this perennial plant is the part used. Its virtue resides in a narcotic principle. It is therefore sedative and antispasmodic. Internally, it is exhibited in epilepsy; externally, it is employed in schirrus, scrofula, and swelled testicle.

CCCXXX.

Atropa Belladonna (Deadly Nightshade).

The leaves and root of this perennial plant are the parts used. It possesses an acrid and slightly astringent taste, with a rank smell. Its qualities are narcotic, antispasmodic, and deobstruent. It

is employed in mania, melancholy, hydrophobia, jaundice, and dropsy. Externally, in scirrhus, cancer, fistula, chronic rheumatism, and malignant ulcers. It is given in the form of powder or extract, beginning with a grain or less, and gradually increasing the dose till the tension and dryness of the throat or vertigo limit the quantity.

CCCXXXI.

Physalis Alkekengi (*Winter Cherry*).

Bacca 2 loc. calyce inflato antheræ
approximatæ

The fruit and seeds are the parts used here. The fruit possesses an agreeable acidity, while the rind is intensely bitter. Its qualities are those of a diuretic and eccoprotic; and it is employed in nephritis, dysury, and dropsy.

CCCXXXII.

Solanum (*Nightshade*).

Bacca 2 locularis antheræ bip. foratæ.

Solanum Dulcamara (*Bitter Sweet*).

The roots are the part used, which possess a bitter sweet and nauseous taste, with a rank foetid smell. Its qualities are those of a diuretic, alterative, and deobstruent. It is used in decoction against chronic rheumatism, cutaneous diseases, amenorrhæa, jaundice, and syphilis. The proportions are half an ounce to 2 ounces of the roots to 3 lb. of fluid boiled down to 2 lb. consuming from 1 to 2 lb. a day.

CCCXXXIII.

Solanum Nigrum (Common Nightshade).

This annual plant possesses the same rank foetid smell as the former. Its qualities reside in a narcotic principle, and it proves, therefore, narcotic, diuretic, and deobstruent. It is used for the same purposes as the somniferous poppy; and externally, in phlegmon, whitlow, schirrus, and ulceration. The dose of the powder is from 1 to 6 grs.

CCCXXXIV.

Capficum (Indian Pepper).

Bacca, 2 locul. exsucca antheræ
conniventes.

Capficum Annuum (Cayenne Pepper).

The fruit of this annual plant is of an acrid burning taste, its active quality residing in a resinous principle. Its virtues are those of a stimulant, stomachic, and rubefacient. It is employed in dyspepsia, arithitic cardialgia, caryza, and in intermittent fevers.

CCCXXXV.

Capficum Baccatum (Bird Pepper).

This resembles the former in its taste, qualities, and uses.

CCCXXXVI.

Strychnos.

Bacca 2 locul. corticosa, figm.
capitatum.

Strychnos Nux Vomica (Poison Nut).

The wood and nuts of this Oriental tree possess

an intensely bitter taste and rank smell. They are diuretic, emmenagogue, and anthelmintic. They are employed in intermittent fevers, in chronic dysentery, cardialgia, amenorrhæa, and worms. The dose of the powder is from 5 to 15 grs.

CCCXXXVII.

Strychnos Volubilis (*Jesuit's Bean*).

The taste of this nut is equally bitter as the former, and it possesses equally the qualities of a narcotic, diuretic, sudorific, and anthelmintic. It is given in obstinate intermittents, in amenorrhæa, in worms, in asthma, and in chronic spasm. The dose of the powder is from 5 grs. to 1 scruple. The infusion is also used in the same proportion. The antidote of this poison is the acetous acid.

CCCXXXVIII.

Cordia Myxa (*Smooth-Leaved Cordia*).

Bacc. 1 sperm. nuc. 4 locul. stigm.
dichotomum, calyx baccaë ticktum.

The fruit of this tree, the production of Egypt and India, is of a sweet and mucilaginous nature. Its qualities are nutrient and lubricating. It is employed in hoarseness, cough, and strangury.

CCCXXXIX.

Fl. Pentopetali inferi.

Rhamnus (*Buck-Thorn*).

Bacca 3 locularis rotunda, cal. tubul.
corollifer, squamæ oris, 5 con-
vergentes.

Rhamnus Catharticus (*Purging Buck-Thorn*).

The inspissated juice of the berries of this tree

possesses a nauseous bitter taste and disagreeable smell. Its qualities are cathartic and diuretic. Its decoction is used in dropsy, in cachexia, and syphilis, in the proportion of 2 drams of the berries to 1 lb. of fluid. The syrup of the expressed juice is the most common preparation.

CCCXL.

Rhamnus Frangula (*Black Alder*).

The inner bark is the part used, which possesses a styptic bitter taste. It is drastically cathartic, diuretic, and anthelmintic. It is employed in dropsy, itch, worms, and swellings of the anus. The dose is from half a dram to 2 drams.

CCCXLI.

Rhamnus Ziziphus (*Shining-Leaved Rhamnus*).

The berries of this tree, the production of the Southern parts of Europe, are used. They possess a sweet mucilaginous quality. They are therefore lubricant and expectorant. They are employed in cough and strangury. Their preparation or form is a syrup.

CCCXLII.

Ceanothus Americanus (*New Jersey Tea*).

Bacca. 3 coeca. cal. tubul. corollifer
petalo fornicata.

The root of this shrub are the parts used. They are red, and possess an alterative virtue, being used externally in powder to siphylitic ulcers.

CCCXLIII.

Vitis (The Vine).

Bacca 3 sperma, cor. sæpe e marcido
connata stilus nullus.

Vitis Vinifera (Vine bearing Wine).

The berries and leaves are the parts used. The former possess an agreeable sweet acidulous taste, the latter are somewhat styptic. The fruit is nutrient, antiseptic, and eccoprotic, and deobstruent. The leaves are gently astringent. This production is employed in cough, strangury, jaundice, abdominal obesity, and consumption. From the expressed juice prepared by fermentation is produced wine, which varies in its particular qualities according to the nature of the fruit or grape.

CCCXLIV.

*Fl. Pentopetali superi.**Lagæcia Cuminoides (Wild Cummin).*

Sem. 2 nuda, cal. pennatu pectinat.
petalo bicamio.

The seeds of this annual plant, the production of the Grecian islands, are the part used. They possess an aromatic taste, and are stomachic and carminative.

CCCXLV.

Nerium Antidysentericum (Coral-Leaved Rosebay).

Follic. 2 erecti. cor. facî coronata.

The bark is the part used. It possesses a bitter taste, is acrid and poisonous when fresh, and has a milky juice. It is an anthelmintic, and is em-

ployed in obstinate intermittents, in chronic dysentery, in diarrhæa, and in toothach.

CCCXLVI.

Echites.

Follic. 2 recti, cor. infundib. fauce
nuda. fem. puppora.

This is the production of Surinam. The leaves and herb are used. It is employed chiefly in dysphylis in decoction.

CCCXLVII.

Plumeria (White Plumeria).

Follic. 2 refracti, cor. infundib;
fem. alata.

This tree is the production of the West Indies, and is used in decoction in dysphylis.

CCCXLVIII.

Vinca Minor (Small Periwinkle).

Follic. 2 erecti, cor hypocrat. fem;
simplicia.

This perennial plant possesses a bitterish taste. It has the peculiar effect of corrugating the scrotum in the form of fomentation. Its infusion is employed in diseases of the breast, and in cynanche in the form of gargle.

CCCXXIX.

Ribes.

Bacca polysperma, cal. colliger stil;
2 fidus.

Ribes Rubrum (Red Currant).

The berry and juice, the parts used, possess a

taste intensely acid. In their qualities they are refrigerant. They are employed in fevers and scurvy in the form of rob and syrup.

CCCL.

Ribes Nigrum (*Black Currant*).

The berries and leaves are the parts used. The former possess an acid styptic taste. The leaves are diuretic and sudorific. They are employed in rheumatism, in mucous cynanche, and in dysentery. The root, fruit, and syrup, are all used.

CCCLI.

Hedera Helix (*Common Ivy*).

Bacca 5 sperma cal. unguis fructum stigma simplex.

The parts used are the leaves, fruit, and gum resin. The leaves have a bitter styptic nauseous taste. The fruit is bitter and acid, and the gum has a slight aromatic smell. The infusion of the leaves is employed in infantile atrophy, rickets, æzema, and ulcers.

CCCLII.

2. Digynia, or such plants as have two styles, the medical articles of which are :

CCCLIII.

Flor. Monopetali inferi.

Asclepias Vincetoxicum (*White and Yellow Swallowwort*).

Follicul. 2 cor. reflexa nectariis 5 uniformibus unguiculatis.

This perennial plant possesses a bitter acrid

aromatic taste, with a penetrating smell. Its qualities are those of a stimulant, diuretic, and emmenagogue. It is employed in dropsy, and resembles valerian.

CCCLIV.

Gentiana (*Gentian*).

Caps. 1 loc. 2 valvis cor. tubulosa
indeterminata.

Gentiana Lutea (*Yellow Gentian*).

The root is the part used, which possesses an intense and pure bitter taste. Its qualities are stomachic, antiseptic, and anthelmintic. It is employed in dyspepsia, jaundice, intermittent fevers, dropsy, chlorosis, gout, and worms. It is exhibited in extract and infusion, watery or vinous. The dose is from a scruple to a dram.

CCCLV.

Gentiana Purpurea (*Purple Gentian*).

This species is the same as the former in its general qualities.

CCCLVI.

Gentiana Centaureum (*Lesser Centaury*).

This species is also little different from the two former.

CCCLVII.

Fl. Incompleti.

Chenopodium (*Goose-Foot*).

Sem. 1 orbiculare, cal. 5-phyllus
foliolis concavis.

Chenopodium Ambrosioid (*Mexican Goose-Foot*).

The plants and seeds are the parts used. It

has an acrid aromatic taste, with a fragrant smell. Its qualities are nervine and stimulant; those of the seeds, anthelmintic and carminative. They are employed in palsy, nervous weakness, dyspepsia, flatulence, and worms. The form is either in infusion or tincture.

CCCLVIII.

Chenopodium Anthelminticum (*Shrubby Goose-Foot*).

This species possesses an aromatic and strong fragrant smell. Its qualities are anthelmintic, and it is employed against the lumbrici. *

CCCLIX.

Chenopodium Vulvaria (*Stinking Goose-Foot*).

This species has a foetid goatish smell, is considered as an antispasmodic, and used in hysteria.

CCCLX

Salsola.

Sem. 1 cochleatum testum, cal.
5-phyllus.

It is from this plant the soda is produced. It is divided into three species, *Salsola Kali*, *Salsola Sativa*, and *Salsola Soda*.

CCCLXI.

Ulmus Campestris (*Elm-Tree*).

Bacca exsucca compressa, cal. 1-
phyllus emarescens

The inner bark, the part used, possesses a bitterish styptic taste. Its virtues are those of a tonic, astringent, diuretic, and alterative. The decoction

CLASSIFICATION.

209

is employed in leprosy and other cutaneous diseases, in phagedenic ulcers, gout and dropsy. The proportions are 1 or 2 ounces of the bark to 2 pounds of water boiled to one.

CCCLXII.

Fl. Pentapetali superi dispermi Umbellatæ.

Δ. Involucro universalis partialique.

Eryngium (Eryngo).

Fl. capitati recept. paleaceum.

The root of this perennial plant possesses a sweetish and slightly aromatic taste. Its virtues are diuretic and aphrodisiac. It is employed in pulmonary consumption in infusion in the proportion of half an ounce to a pound of fluid, which is exhibited daily.

CCCLXIII.

Sanicula Europæa (Common Sanicle).

Fl. tubumbellata abortivi, sem. mucricatæ.

This perennial plant is intrepid and inodorous, but is said to possess deobstruent virtues.

CCCLXIV.

Daucus Carota (Wild Carrot).

Fl. radiati abortivi invol. pennatum. sem. hispida.

The root, leaves, and seed, are all used. The root possesses a sweet mucilaginous taste, depending on a saccharine mucilaginous principle. The seeds have an aromatic bitterish taste and fragrant smell. The virtues of the root are demulcent and

antiseptic; those of the seeds, stimulant and anthelmintic. Externally, the root is used in the form of cataplasm to phagedenic, putrid, and herpetic ulcers, and to cancer. Its decoction is also applied in strangury.

CCCLXV.

Conium (Hemlock).

Fl. flo.c. fertil. pet. cordata. involuc.
dimidiata, sem. gibba costato ful-
cata.

Conium Maculatum (Common Hemlock).

This biennial plant possesses an acrid nauseous taste and rank smell. Its virtue resides in a narcotic acrid principle, and it proves therefore narcotic and diuretic. It is used externally in the form of powder and cataplasm in schirrus, phagedenic ulceration, scrofula, and caries; and internally, in the same diseases, and also in chincough, tenia, swelled testicle, prostate, &c. Its forms are the powder and extract, beginning with one grain, and gradually ascending to a considerable quantity.

CCCLXVI.

Ferula.

Fl. flo.c. fert. pet. cordata, sim.
pluma,

Ferula Asa Fœtida (Asa Fœtida).

The gummy resinous juice is the part used. It possesses an acrid aromatic nauseous taste, with a garlic or alleaceous smell. Its quality depends on a volatile oil and resinous principle. It is si-

mulant, antispasmodic, anthelmintic, carminative, emmenagogue, deobstruent, and resolvent. Hence it is employed both externally and internally in the form of pills, tincture, glister, and plaister against various diseases, as hysteria, convulsion, spasmodic cardialgia, flatulent cholic, tympany, spasmodic asthma, chincough, worms, paronychia, bubo, and caries.

CCCLXVII.

LasERPitium Siler (*Mountain Lesser-wort*).

Flor. fasciculati abortivi, pet. cor-
data, sem. plana.

The seeds, the part used, possess an acrid aromatic taste and fragrant smell. They are carminative and stomachic, and used in painful lochia.

CCCLXVIII.

Angelica.

Fl fasc. fert pet. planiusc. umbel-
lulæ globosæ

Angelica Archangelica (*Garden Angelica*).

The root, leaves, and seed, are the parts used. The possess an acrid aromatic and warm taste, with a fragrant smell. Their principle depends on a volatile oil. They are stimulant, sialogue, carminative, and sudorific. They are employed in dyspepsia and flatulence.

CCCLXIX.

Angelica Sylvestris (*Wild Angelica*).

The root possesses the same virtues as the former species, but its powers are weaker.

CCCLXX.

Sium.

Fl. flosc. fert. pet. cordata sem.
 suborat. striata.

Sium Ninsi.

* The root of this perennial plant, the production of Japan, possesses a sweetish bitter somewhat aromatic taste. Its qualities are cordial and fattening. It is employed in anaphrodisia, asththemia, and marasmus.

CCCLXXI.

Sium Nodiflorum (*Creeping Water Parsnip*).

The expressed juice is employed in diseases of the skin, in the proportion of from 1 to 4 ounces every morning.

CCCLXXII.

Sison Amomum (*Field Honey-wort*).

Fl. flosc. fert. pet. planiusc. umbella
 depauperata.

The seeds of this plant, the part used, possess an agreeable aromatic bitter taste. They are stimulant and carminative, and prove useful in flatulence and sterility.

CCCLXXIII.

Bubon (*Parsley*).

Fl. flosc. fert. pet. pleniusc. inv.
 5-phyllum.

Bubon Macedonicum (*Macedonian Parsley*).

The seeds are the part used. They possess an aromatic sweetish taste. They prove carminative,

diuretic, and emmenagogue. They are employed in siphylis.

CCCLXXIV.

Bubon Galbanum (*Galbanum*, or long-leaved *Bubon*).

The inspissated juice of this perennial African production is the part used. It possesses a bitter acrid taste, with an alleaceous penetrating smell. Its virtues are stimulant, antispasmodic, emmenagogue, expectorant, and resolvent. It is employed in hysteria, asthma, amenorrhœa, and atehnia. Externally, for the purpose of resolving and maturing tumors. It is exhibited in the form of pills or emulsion from a scruple to a dram.

CCCLXXV.

Cuminum (*Cumine*).

Fl. flosc. fert. pct. cordata umb.
4-fida invol sataceis longissimus.

The seeds of this plant, the production of Egypt and the South of Europe, have an acrid aromatic taste, and fragrant odor. They are stimulant and carminative, and are employed in flatulent cholic, tympany, and swellings of a cold nature.

CCCLXXVI.

B. *Involucris partialibus universali nullo.*

Philandrium.

Fl flosc fertiles fr. coranti.

Phillandrium Aquaticum (*Water Phillandrium*).

The seeds of this biennial plant possess an acrid aromatic taste and smell. They are flatulent and

CLASSIFICATION.

narcotic, and employed in dyspepsia, in intermit-
tents and hypochondriasis, in scrofulous and atonic
ulcers, and in pulmonary consumption.

CCCLXXVII.

Cicuta.

Fl. flosc. fertibus pet. paniculata.

Cicuta Virens (*Water Hemlock*).

This poisonous plant possesses an acrid taste and
rank smell. It is a narcotic and resolvent.

CCCLXXVIII.

Æthusa (*Spiguel*).

Fl. subradiat. fert. involucella de-
mediata.

Æthusa Meum (*Common Spiguel*).

The root of this perennial plant possesses an
acrid aromatic warm taste. It is stimulant and
carminative, and employed in the tertian inter-
mittent, asthma, and leucorrhœa.

CCCLXXIX.

Coriandrum (*Coriander*).

Fl. radiat. abortivi fr. subglobosi.

Coriandrum Sativum (*Common Coriander*).

The seeds of this annual plant possess an aro-
matic taste, but rather offensive smell. They re-
markably lessen the disagreeable taste and smell of
fenna. They are hipnotic and carminative, and
chiefly employed in infusion with fenna.

CCCLXXX.

Imperatoria (*Master-wort*).Fl. flosc. fertiles, umb. expanso
plana.*Imperatoria C9buthium* (*Common Master-wort*).

The root of this perennial plant possesses a bitter acrid aromatic warm taste, with a fragrant smell. Its quality resides in a volatile oil and resinous principle. It is stimulant, carminative, emmenagogue, and sialogogue. It is given in atonic amenorrhœa, in dyspepsia, flatulent cholic, palsy, intermittents, ring-worm, and in sterility. Its dose is from 10 to 30 grains.

CCCLXXXI.

C. *Involucro nullo, nec universali, nec partialibus.**Pastinaca*.Fl. flosc. fertiles, sem. depresso-
plana.*Pastinaca Opopanax* (*Rough Parsnip*).

This concrete nauseous gum has an acid bitterish taste, with a rank strong smell. Its virtue resides in a volatile oil and resinous principle. It is nervine, eccoprotic, carminative, and emmenagogue. It is used in cough and asthma.

CCCLXXXII.

Anethum (*Dill*).Fl. flosc. fertiles, sem. marginat:
striata.*Anethum Graveolus* (*Garden Dill*).

This annual plant and its seeds are used. In

possesses a somewhat aromatic taste and disagreeable smell. It is hipnotic, carminative, and lactiferous. It is exhibited in three forms, of a volatile oil from the seeds, a water, and spirit. The dose of the oil is from 5 to 10 drops.

CCCLXXXIII.

Anethum Feniculum (Sweet Fennel).

The seeds of this perennial plant are chiefly used. They have a sweetish aromatic taste, and disagreeable smell. Their principle resides in a volatile oil. They are carminative, lactiferous, and resolvent. They are employed in dyspepsia, flatulent cholic in infancy, want of milk, and in ophthalmia. The dose of the powder is a scruple, and the proportion in the infusion is two or three drams to 1 lb. of fluid.

CCCLXXXIV.

Carum (Caraway).

Fl. flosc. abortivi, sem. gibba striata.

Carum Carvi (Common Caraway).

The seeds of this perennial plant have an aromatic acid warm taste. Their virtue resides in a volatile oil. They are stimulant, lactiferous, and resolvent. The dose of the powder is from a scruple to a dram, and the proportion of the decoction is 1 ounce to 1 lb. of water.

CCCLXXXV.

Pimpinella (Saxifrage).

Fl. fl. fertiles, (umbellæ ante
 florescentiam nutantes,) pet. cor-
 data.

Pimpinella Saxifraga (Small Burnet Saxifrage.)

The root of this perennial plant possesses an acrid warm taste, with a goatish smell. Its virtue resides in an acrid resinous principle. It is stimulant, diuretic, emmenagogue, and resolvent. It is employed in angina and hysteria. Its forms are the powder and tincture.

CCCLXXXVI.

Pimpinella Anisum (Anise).

The seeds of this annual Egyptian plant possess a sweetish aromatic taste, with a sickly fragrant smell. Their virtue resides in a mild volatile oil. They are stimulant, carminative, lactiferous, and resolvent. They are employed in flatulence and rheumatism; in the form of powder, from a scruple to half a dram; in infusion, from an ounce to a pound of fluid; and in oil, from ten drops to two drams.

CCCLXXXVII.

Apium.

Fl. fl. fertiles, sem. minuta striata,
 pet. inflexa.

Apium Petroselinum (Parsley).

The root, seeds, and plant, are all used. The former is diuretic and resolvent, and employed to

dispel the milk, and root out vermin. It is used in jaundice, in dysuria, in weaning, &c.

CCCLXXXVIII.

Apium Graveolens (Sellery).

The same parts are used here as in the former. They possess a sweetish taste, with a strong or rank smell. Their virtue resides probably in a volatile oil. They possess the same qualities as the former species.

CCCLXXXIX.

3. Trigynia, or such plants of this class as have three styles, the medical articles of which are :

CCCXC.

Fl. Superi.

Rhus.

Cor. 5-petala, bacca 1-sperma.

Rhus Corinaria (*Elm-Leaved Sumach*).

The berry and seeds of this tree are used. Their virtue resides in a most astringent acid principle. Their qualities are therefore of a styptic nature, and they are employed in hæmorrhages and gonorrhæa.

CCCXCI.

Cassine.

Cor. 5-petala, bacca 3-sperma.

Cassine Peragua (*Peraguay Tea*).

The leaves of this tree, the part used, have an intensely bitter taste. Hence they prove emetic, cathartic, diaphoretic, and expectorant. They are

employed in diabetes, nephritic colic, and in chronic catarrhal affections of the lungs.

CCCXCII.

Sambucus.

Cor. 5-fida, bacca 3-sperma.

Sambucus Ebulus (*Dwarf Elder*).

Every part of this shrub is used. It possesses an acrid nauseous bitter taste, with a rank foetid smell. It is drastically cathartic, diuretic, emetic, and narcotic. The decoction of the bark and leaves is used in dropsy, itch, and leucorrhæa. Its dose is two drams, and the juice of the berries an ounce.

CCCXCIII.

Sambucus Nigra (*Black Berried Elder*).

The fruit of this species is gratefully acid. The other parts resemble the former species. The infusion of the bark and tops is employed in dropsy and erisipelas, the proportion being two drams, or half an ounce, to one pound of fluid.

CCCXCIV.

Tamarix (*Tamarisk*).

Cor. 5-petala, caps. 1-locularis, sem. papposa.

Tamarix Gallica (*French Tamarisk*).

The root, bark, and leaves, are all used. They possess a bitter styptic taste, and are astringent in their quality.

CCCXCV.

4. Tetragynia, or such plants of this class as have four stiles, but of these there are none in medicine of importance.

CCCXCVI.

5. Pentagynia, or those that have five stiles, the medical articles of which are :

CCCXCVII.

Linum (Flax).

Cor. 5-petala, caps. 10-locularis, 2-spermæ.

Linum Usitatissimum (Common Flax).

The seeds of this annual plant are the parts used. Its qualities are mucilaginous and oily. It is lubricating and emollient. It is employed in decoction or infusion, in dysury, nephritis, gonorrhœa, in the form of glyster, in tenesmus, in cataplasm, in cynanche, and in phlegmon. The proportion of the seeds in the decoction are an ounce to one pound of water. The expressed, or fixed oil, should be prepared cold.

CCCXCVIII.

Linum Catharticum (Purging Flax).

This annual plant has a saltish bitter nauseous taste. Its virtue is cathartic, and it is employed in dropsy and nephritis. The proportion in infusion is two drams to one pound of fluid.

CCCXCIX.

CLASS VI. HEXANDRIA.

This class is composed of such plants as bear hermaphrodite flowers with six stamina. The flowers of this class may be known from those of the 15th by this distinction, that the stamina are of equal length. The orders of this class are five.

CCCC.

1. The first, or monogynia, comprehends such plants as have but one stile, and the medical articles of this order are :

CCCCI.

Bromelia.

Cor. 3-partita, cal. 3-partitus, bacca superus.

Bromelia Ananas (Queen Pipe Apple).

The fruit and outer rind are used. It possesses a most agreeable sweet acid taste, with a little acrimony. It is highly cordial, and the rind is emmenagogue.

CCCCII.

Allium (Garlic).

Cor. infera, 6-petala, pet. ovata sessilia.

The root and its juice are the parts used. They possess an acrid taste, and a peculiar volatile smell, called alliaceous. Their qualities are diaphoretic, anthelmintic, aphrodisiac, diuretic, and rubefacient. When boiled, they are emollient and maturating. Externally, the juice is used in toothach and rheu-

matic dropfy. In the form of cataplafm, they are applied to phlegmon, bubo, and fwellings of the anus.

CCCCIII.

Allium Sativum (*Cultivated Leek*).

The recent root and juice are here ufed as in the former. They poffefs an acrid fubcauftic tafte, with an alliaceous volatile fmell. Their virtue refides in an acrid principle, and a fmall proportion of volatile oil. They are diuretic, diaphoretic, anthelmintic, rubefacient, and maturating. The juice is ufed externally in deafnefs, herpes, and corns; and the recent root and juice is internally exhibited in quartan, in dyspepfia, dropfy, afthma, and fcurvy.

CCCCIV.

Lilium (*Lily*).

Cor. infera, 6 petala, petalis baf
canaliculato-tubularis.

Lilium Candidum (*White Lily*).

The white petals poffefs a fragrant odor, and the root a mucilaginous quality.

CCCCIV.

Scilla (*Squill*).

Cor. infera, 6-petala decidua, filam.
filiformia.

Scilla Maritima (*Sea Onion*).

The root of this perennial plant, growing on the fandy fhores on the fouth of Europe, poffeffes a tafte intenfely bitter, naufeous, and acrid. Its

quality resides in an acrid volatile principle. Its virtues are diuretic, expectorant, emetic, and cathartic. It is employed in dropsy, jaundice, barren, peripneumony, catarrhal asthma, and in these several cases it is joined with opium, aromatics, or mercury. Externally, it is used in friction to the belly in dropsy. The dose of the recent root is from 5 grains to 20; of the dried, from 1 grain to 6. Its various forms are wine, vinegar, and oxymel.

CCCCV.

Asparagus (Asparagus).

Cor. infera, 6-petala, bacca 6-sperma.

Asparagus Officinalis (Garden Asparagus).

The root of this perennial plant is the part used. It is sweetish and inodorous, giving the urine a foetid smell, which is corrected by the addition of an acid. Its qualities are diuretic.

CCCCVI.

Dracena (Dragon Tree).

Cor. infera, 6-petala, bacca 3-sperma.

Dracena Draco (Dragon's Blood).

The resin, or concrete juice of this Oriental shrub is the part used. It possesses a styptic quality, and is therefore used in hemorrhages, leucorrhœa, and all morbid discharges of a passive nature.

CCCCVII.

*Alœe (Aloes.)*Cyr. infera, 6-fida, filam. n. cap. 3-
culo inserta.

The inspissated juice of this perennial plant is the part used. Its taste is intensely bitter and nauseous. Its smell is mostly resinous. Its virtue resides in an extractive resinous principle. It is cathartic, particularly by its action affecting the rectum; stomachic, emmenagogue, and anthelmintic. It is given internally in costiveness, pyrosis, dyspepsia, and suppressed hemorrhoids; externally, in putrid ulcers, and in caries, &c. Its forms are an extract, tincture, and wine. The dose of the extract, 2 grains, or more; of the tincture, from half an ounce to 2 ounces; and of the wine, from a dram to half an ounce.

CCCCVIII.

Acorus (Sweet Flag).

Spadix multiflorus, capf. 3-locularis.

This perennial plant is the production of moist marsh grounds. The root is the part used, which has an aromatic bitter taste, with a fragrant smell. Its virtues are stimulant and stomachic. It is employed in dyspepsia, in doses of half a dram. Its preparations are an extract and candy.

CCCCIX.

2. Digynia comprehends the plants of this class, which have two stiles; the only medical article of which is the

CCCCX.

*Oriza (Rice).*Glum. 1-flora, cor. 2-glumis, sem.
oblongum.

~~This~~ Annual plant is mucilaginous and sweet, and farinaceous. Its virtues are nutrient and lubricating. It is employed as a medicine in diarrhæa and dysentery.

CCCCXI.

3. The individuals of the order of trigynia, or those which have three stiles, are :

CCCCXII.

*Rumex (Dock).*Cal. 3-phyllus, cor. 3-petala, sem.
triquetrum.*Rumex Acetosa (Sorrel).*

The herb, seed, and root, are all used. The first has an acid taste, the root and seeds are austere and bitter. Its virtues are those of an antiseptic. It is employed, in the herb and juice, in scurvy and cutaneous diseases; and externally in the form of cataplasm to scrofulous ulcers.

CCCCXIII.

Rumex Acutus (Sharp-pointed Dock).

It possesses a bitterish and acidulous taste. Its virtues are as a styptic, being used in decoction in itch and cutaneous diseases; and externally, in atonic ulcers.

CLASSIFICATION.

CCCCXIV.

Rumex Alpinus (*Alpine Dock*).

This species has a bitter caustic taste; and, being astringent, is applied to atonic ulcers.

CCCCXV.

Rumex Hydrolapathus (*Water Dock*).

This species has also a bitter acrid styptic taste. Its virtues are astringent and resolvent. It is employed in decoction in diseases of the skin, and scurvy; externally, in the form of lotion to ulcers, from 2 drams to half an ounce, in the proportion to 1 lb. of fluid in decoction.

CCCCXVI.

Rumex Sanguineus (*Bloody Dock*).

This species possesses the same austere taste, is astringent, and employed in dysentery and ulcers.

CCCCXVII.

Rumex Scutatus.

The taste of this species is gratefully acid and refrigerant.

CCCCXVIII.

Colchium (*Meadow Saffron*).

Cal. spatha, cor. 6 petaloidea.

Colchium Autumnale (*Autumnal Meadow Saffron*).

The root of this perennial plant, the part used, has a taste intensely acrid and nauseous, with a rank smell. Its virtues are narcotic, drastically cathartic, and diuretic. It is employed in dropsy; and its preparations are a vinegar and oxymel.

CCCCXIX.

4. Of the orders of tetragynia and polygynia, there are no medical articles.

CCCCXX.

CLASS VII. HEPTANDRIA.

This class consists of such plants as bear hermaphrodite flowers, furnished with seven stamina. The orders of this class are four.

CCCCXXI.

1. Monogynia, the first order, comprehends such plants as have but one stile; and of this order only one medical article occurs.

CCCCXXII.

Æsculus (*Chestnut*).

Cor. rotata, sub-septem-partita,
Cal. 5-dentatus, caps. 3 locularis, 2 sperma.

Æsculus Hypocæstanum (*Common Horse-Chestnut*).

The bark of this tree, the part used, is astringent; and is used in the form of powder, or extract, in intermittents.

CCCCXXIV.

CLASS. VIII. OCTANDRIA.

This class is composed of such plants as bear hermaphrodite flowers furnished with 8 stamina. The orders of it are four.

CCCCXXV.

1. The first, or monogynia, comprehends such plants as have but one stile, the medical articles of which are:

CLASSIFICATION.

CCCCXXVI.

*Fl. Completi.**Trapeolum (Cress).*Cor. 5 petala, cal. 5-fidus infer.
calcarat. Bacca ~~in~~ ^{perisperm.}*Trapeolum Majus (Indian Cress).*

This annual plant is acrid to the taste, is diuretic in quality, and used in scurvy.

CCCCXXVII.

*Amyfis.*Cor. 4 petala, cal. 4-dentatus infer.
Bacca 1 sperma.*Amyfis Elemifera (Gum-Elemi).*

The resin of this American tree is of a pellucid yellow colour. Its virtues are resolvent and stimulant. It is externally used in plasters and ointments.

CCCCXXVIII.

Amyfis Gileadenfis (Balm of Gilead).

This production is from the same tree, as well as the

CCCCXXIX.

Amyfis Zeylandia.

This species, from Ceylon, agrees in qualities with the former.

CCCCXXX.

*Vaccinium.*Cor. 1 petala, cal. 4-dentatus super.
bacca filam. receptaculi. *Vaccinium Myrtillus (Bill-Berry).*

The recent fruit of this shrub possesses an acid

CLASSIFICATION.

229

styptic taste. Its virtues are somewhat astringent and antiseptic. It is employed in bilious and putrid fevers, in diarrhœa and scurvy. Its forms are a syrup and rob.

CCCCXXXI.

Vaccinium Vitis Idææ (Red Bill-Berry).

The fruit is acid and refrigerant, and employed in acute fevers in the form of rob.

CCCCXXXII.

Vaccinium Oxycoccus (Cranberry).

This species agrees in qualities with the former.

CCCCXXXIII.

Daphne.

Cal. 4 fidus, corollinus æqualis,
stam. inclusa, bacca pulposa.

Daphne Mezereum (Mizerium).

The bark of the root is the part used, which has an acid burning taste. Its virtue resides in an acrid principle. It is drastically cathartic, emetic, diuretic, and externally corrosive and vesicant.

In the form of decoction it is employed against diseases of the skin, and venereal affections of the bones; and externally, in the form of cataplasm to schirrus and leprosy. Two drams of the bark is the proportion to 2 lbs. of water. The antidote is camphor.

CCCCXXXIV.

Daphne Laureola (Spurge Laurel).

This species resembles the former, and the bark

moistened with vinegar is often applied in place of a blister. Its only preparation is an ointment for issues.

CCCCXXXV.

2. In the order of digynia, no medical articles occur.

CCCCXXXVI.

3. In the order of trigynia, or plants having three stiles, the number is small.

CCCCXXXVII.

Polygonum.

Cor. o. cal. 5 partitus, sem. 1.
nudum.

Polygonum Bistorta (Great Bistort).

The root, the part used, has a styptic taste, and its virtue resides in an astringent principle. It is tonic and astringent, and employed with gentian, in the form of powder, decoction, and infusion, in intermittents, propheria, or passive discharges, and in leucorrhæa. The dose is 3 drams a day.

CCCCXXXVIII.

4. In the order of tetragynia, or plants having four stiles, there is only

CCCCXXXIX.

Paris.

Cor 4 petala subulata, cal. 4 phyllus, bacca 4 locularia.

Paris Quadrifolia (True-Love).

The fruit and plant are the parts used. It possesses a sweetish taste, with a rank smell. It is

employed in convulsions, madness, bubo, and ophthalmia.

CCCCXL.

CLASS IX. ENNEANDRIA.

This class is composed of such plants as bear hermaphrodite flowers, furnished with nine stamina. It consists of three orders.

CCCCXLI.

1. The first order, monogynia, comprehends such as have but one stile.

CCCCXLII.

Laurus.

Cal. o. cor. 6 petala calycin, bacca
1 sperma.

Laurus Cinnamomum (Cinnamon).

The bark of this tree, the production of Ceylon, is the part used. It possesses first a sweet, then an acrid aromatic agreeable taste, with a highly fragrant smell. Its virtue resides in a volatile oil. It is cordial, stimulant, calefacient, tonic, antispasmodic, stomachic, carminative, and aphrodisiac. It is employed in dyspepsia, anaphrodisia, and athenic diseases. The dose of the powder is from 10 to 30 grains. Its various preparations are in watery and vinous infusion, in spirit, tincture, and volatile oil.

CCCCXLIII.

Laurus Cassia (Cassia).

The herb and flowers of this species are the

parts used. It possesses an acrid aromatic taste, with a fragrant smell, but both weaker than the former. Its principle resides also in a volatile oil. It is stimulant and calefacient, and employed in palsy of the tongue. The flowers supply the place of the cinnamon bark. Its preparation is its volatile oil.

CCCCXLIV.

Laurus Cutilanus (Clove-tree).

This species is the production of Amboyna and the Molucca Islands. The bark is the part used. It possesses an aromatic taste, resembling that of cassia, at the same time mucilaginous and somewhat astringent. It is calefacient, tonic, carminative, and stomachic. It is employed in palsy, flatulent cholic, and dyspepsia.

CCCCXLV.

Laurus Myrrha (Myrrh-tree).

This species is the production of China, and from it probably the resinous gum is extracted.

CCCCXLVI.

Laurus Nobilis (Common Sweet Bay).

The leaves and berries are the parts used. It possesses an acrid aromatic bitterish taste. Its virtue resides in a volatile, mixed with a fixed oil. It is calefacient, stomachic, carminative, and resolvent. It is employed internally in amenorrhœa, dyspepsia, chlorosis, hysteria, and lochial pains, externally, in the form of oil, in cold tumors,

itch, and vermin. The only preparation is the oil.

CCCCXLVII.

Laurus Pécunia.

The fruit of this tree, the production of Brazil, is the part used. It possesses an agreeable bitterish aromatic, and somewhat styptic taste, with a fragrant smell. Its virtue resides in a volatile, mixed with a fixed oil. It is stimulant, stomachic, and somewhat astringent. It is employed in chronic dysentery, diarrhoea, and pains of the belly. The dose is 10 grains of the powder in sugar.

CCCCXLVIII.

Laurus Sassafras (Sassafras-tree).

The root and bark are the parts of this Virginian tree used. It possesses an aromatic, somewhat sweetish, taste, with a fragrant smell. Its principle resides in a copious volatile oil. It is stimulant, diuretic, and sudorific. It is used in the form of decoction and infusion in cachexy, lues, and chronic rheumatism, and gout; also in cutaneous diseases. Its preparation is the volatile oil.

CCCCXLIX.

Anacardium.

Cal. 5 partitus, cor. 5 petala, nux
receptaculo carnosio. Stam decimo-
castrato.

Anacardium Occidentale (Cashew Nut).

The nut of this tree, the production of the

Brazils and the West Indies, is of a black caustic oily nature. It excoriates, and gives a black tinge. It is employed in maculæ, impetigo, and herpes.

CCCCL.

2. The next order of this class is trigynia, or plants having four stiles, the only ones of which are :

CCCCLI.

Rheum (Rhubarb).

Cal. o. car. fida sem. 2. triquetrum.

Rheum Palmatum (Officinal Rhubarb).

The root, the part used, possesses an acrid bitter, somewhat styptic and nauseous, taste, with a nauseous smell when pressed. Its virtue resides in a mucilaginous resinous principle, with a peculiar salt, stated the oxolate of lime. It is cathartic, tonic, antiacid, stomachic, and anthelmintic. It is employed in diarrhæa, colic, dysentery towards the termination, in rickets, and abdominal obstructions. Its forms are the powder in doses from 10 grains to 1 dram; the infusion, in the proportion of a dram to 6 or 8 ounces of water. Its other preparations are a tincture, syrup, and watery alkaline infusion.

CCCCCLII.

Rheum Rhaponticum (Rhapontic Rhubarb).

This species is more styptic and less nauseous than the former. It is employed in diarrhæa and leucorrhæa.

CCCCLIII.

Rheum Undulatum (*Chinese Rhubarb*).

This species is more cathartic than the first.

CCCCLIV.

CLASS X. DECANDRIA.

This class consists of such plants as bear hermaphrodite flowers furnished with ten stamina. The orders are five.

CCCCLV.

1. Th. first, or monogynia, comprehends such as have one stile, the medical articles of which are:

CCCCLVI.

Hymenæa.

Cor. sub inæqualis legum. lignosum
pulpa farinosa

Hymenæa Camboril (*Locust Tree*).

A resin from the bark and root is the part used. It is yellow and pellucid, with a resinous taste and fragrant smell. Its virtues are nervine, and it is employed in muscular contraction and paralysis.

CCCCLVII.

Cassia.

Cor. inæqualis anther. retortæ legum.
isthmis interceptum.

Cassia Fistula (*Purging Cassia*).

The fruit and pulp are the parts used of this Oriental tree. It possesses a sweetish acid taste, mucilaginous, and somewhat nauseous. It is

cathartic, and employed in costiveness, from half an ounce to two ounces for a dose.

CCCCLVIII.

Cassia Senna (Senna).

The leaves of this African shrub are the parts used. They have some slight acrimony and bitterness of taste, with a nauseous smell. Their virtue is cathartic. They are employed in costiveness in the form of tincture or infusion, and externally against herpes.

CCCCLIX.

Myroxylon Peruiferum (Balsam of Peru).

This tree, the growth of South America, produces this balsam, which has an acid taste and sweet-smelling odor. It is employed in dyspepsia, spasm, amenorrhæa, gonorrhæa, cold affections of the bowels, consumption, and ulcers. Externally, it is applied to rheumatic fever. The dose is 6 to 30 grains often in the day, beat up with the yolk of an egg or sugar.

CCCCLX.

Flores Polypetali Æqualis.

Guaiacum (Guaiac).

Cal. lacim. 2 exteriores minores, caps.
carnosa, 3. sperm. 4-locularis angustatis

Guaiacum Officinale.

The wood, bark, and concrete gum of this West Indian tree are all used. The bark and wood have

a bitterish and somewhat acrid taste, while the gum is highly acrid and pungent. Its virtues are those of a stimulant, sudorific, and attractive. It is given in syphilis, wandering gout, rheumatism, atonic diseases of the lungs, leucorrhæa, and cutaneous affections. The bark and wood are exhibited in decoction in the proportion of 1 ounce of them to 2 lbs. of water; while the gum is given from two and twenty grains to a dram, in the form of powder or tincture.

CCCCCLXI.

Dictamnus (Dittany).

Cor. patula, filam. pulveracea caps.
5 convexæ, sem. arillata.

Dictamnus Albus (White Dittany).

The root of this perennial plant is the part used. It possesses a bitterish and slight aromatic taste, with an ambrosial smell in its recent state. Its qualities are nervine, anthelmintic, and emmenagogue. It is used in epilepsy, leucorrhæa, and worms. It is given in tincture, from 20 drops to a dram a day.

CCCCCLXII.

Ruta (Rue).

Germin genitis 10 melliferis, caps.
5-fida, 5 locularis, polyspermæ.

Ruta Graveolens (Common Rue).

The seeds and plant are both used. They possess a nauseous acrid bitter taste, with a foetid

smell. Their principle resides in a volatile oil. Their qualities are sudorific, carminative, antiseptic, antispasmodic, emmenagogue, anthelmintic, resolvent, and rubefacient. They are employed chiefly in the form of an infusion or decoction, and that against amenorrhæal hysteria, and spasm, headach, hiccup, epilepsy, and flatulence. Externally, it forms an application in ægena and putrid ulceration of fevers attended with caries. It is prepared in the form of vinegar, volatile oil, water, conserve, and extract.

CCCCLXIII.

Toluifera Balsamum (Balsam of Tolu).

Cor. petala infimo majore, cal. campanulata, stilo o.

The balsam from this South American tree possesses a particular aromatic smell. Its virtue resides in a resinous principle, mixed with benzoic acid. It is stimulant and diuretic, and employed in gonorrhœa, in cold affections of the bowels, in catarrhal consumption, and in ulcers and wound. Its forms are a tincture and syrup.

CCCCLXIV.

Hæmatoxylum.

Pistilli stigma emarginatum siliqua valvis navicularibus.

Hæmatoxylum Campechianum (Log-wood).

This wood possesses a styptic taste and drying quality. It proves tonic and astringent. It is

used towards the end of dysentery in the form of decoction, the proportion being 2 ounces to 2 lbs., reduced by boiling to 1; and in extract, from 10 to 40 grains the dose.

CCCCLXV.

Sinutinia:

Nect. tubulosum, 10-dentatum, caps.
lignum 5-valv. sem. imbricata.

Sinutinia Mahogani (*Mahogany Tree*).

The bark, the part used, possesses a bitter styptic taste. It is used as a tonic, like the Peruvian bark, and is therefore substituted for it.

CCCCLXVI.

Quassia (*Quassy*).

Caps. 5. bivalves, 1 spermæ insertæ
receptaculo carnosæ.

Quassia Amara (*Bitter Quassy*).

The wood of this tree possesses a strong and purely bitter taste, without any smell. It is stomachic, antacid, and antiseptic. It is employed in dyspepsia, intermittents, gout, and leucorrhæa. Its form is that of decoction or infusion, in the proportion of 2 drams, or half an ounce to the lb. of fluid. Four grains are the dose of the powder. It is also prepared in extract,

CCCCLXVII.

Quassia Semaruba (*Winged Leaved Quassy*).

The bark of this West India tree is the part used. It is a pure bitter like the former, and

without smell. It is stomachic, slightly astringent, and diuretic. It is used in dyspepsia, diarrhæa, chronic dysentery, and intermittents. Its forms are, the powder in a dose, half a dram; the decoction in the proportion of two drams, or half an ounce to the lb. of fluid.

CCCCLXVIII.

Ledum.

Cor. plano, 5 partita caps. 5 locul.
polyperma.

Ledum Palustre (Marsh Ledum).

The leaves and flowers are the parts used. They have a bitterish astringent taste, with an odorous smell. Their principle resides in a narcotic oil, and a bitter extract. They are narcotic and sudorific. They are employed in leprosy, itch, tinea, chincough, and against vermin. The form is that of infusion, in the proportion of half an ounce, or an ounce, to the lb. of fluid, using half a lb. of it a day.

CCCCLXIX.

*Flôres Monopetali Œquales.**Rhododendron.*

Cor. infundibulif. stamina declinata,
caps. 5 locularis.

Rhododendron Crysantheum.

The roots and plant are both used. It is a shrub, the production of the Northern mountains of Asia, having a bitter styptic taste, and its principle resides in a bitter astringent narcotic ex-

tract. Its qualities are sudorific and astringent. It is employed in gouty rheumatism, in stiffness of joints, in contraction, and in palsy. Its form is that of infusion, in the proportion of two drams, or half an ounce, to nine or twelve ounces of fluid, taking every morning two ounces for a dose.

CCCCLXX.

Arbutus.

Cor. ovata basi diaphana, bacca 5-locularis.

Arbutus Uva Ursi (Bear's Whortleberry).

The leaves of this shrub, which grows in sandy hills, is the part used. They possess a bitter styptic taste, and are without smell. In their qualities they are astringent and diuretic. They are employed in urinary calculus, and in ulcers of the reins and bladder. The dose is from twenty grains to two drams.

CCCCLXXI.

Styrax (*Storax*).

Cor. infundibilis. drupa disperma.

Styrax Officinalis (Common Storax).

This concrete balsam possesses an acrid taste and a fragrant ambrosial smell. It is stimulant and nervine; and externally it is used for fumigations and plasters.

CCCCLXXII.

Styrax Benzoin (*Benjamin*).

This concrete balsam is of two kinds, a whitish

pure kind, and a colored, or impure. It has an acrid pungent taste, with a fragrant ambrosial smell. Its qualities are stimulant, nervine, and expectorant. Its virtue resides in a peculiar acid and a resinous principle. The acid is used in affections of the breast, connected with phlegm; externally, it is employed in redness of the face, and for fumigation. The dose of the acid salt is from 15 grains to half a dram. Its preparations are the flowers and tincture.

CCCCLXXIII.

Flores Apetali Superi incompleti.

Copaifera.

Cal. 0., cor. 4 petala.

Copaifera Officinalis (Balsam Capivi).

This balsam, along with a fragrant smell, has an aromatic, slightly acrid, and bitterish taste, giving even the urine the same impression. Its quality resides in a resinous principle, and its appearance is yellowish, with much consistence and tenacity. It is stimulant and diuretic, and employed in gonorrhœa, leucorrhœa, atonic diseases of the lungs, reins, and liver, and after the operation of circumcision. Its dose is from 30 to 40 drops twice a day in a proper vehicle.

CCCCLXXIV.

2. Of the order of digynia, or plants which have two styles, three are only in medicine.

CCCCLXXV.

Saponaria (*Soapwort*).

Cor. 5 petala, cal. tubulosus, basi nudus, caps. 1. locul. oblonga.

Saponaria Officinalis (*Common Soapwort*).

The root and leaves of this perennial plant are the parts used. The former, when recent, has a slightly acid and bitter taste; and, when beat, has a sperma or froth, like soap. Its qualities are diuretic and anthelmintic. It is employed in cutaneous diseases, in gonorrhoea and lues, and in jaundice, and also in some phagedenic ulcers. Its form is that of decoction.

CCCCLXXVI.

3. Of the order of trigynia and tetragynia, there are no medical articles of this class; but of the Pentagynia, or such plants as have five stiles, there are,

CCCCLXXVII.

Sedum.

Caps. 5 ad nectaris, cor. 5 petala.

Sedum Acre (*Wall-stone-crop*).

The recent plant and expressed juice are used. Their quality resides in an acrid and gently caustic principle. They prove diuretic and emetic. Externally, the recent plant, bruised, is applied to cancer and phagedenic ulcers.

CLASSIFICATION.

CCCCLXXVIII.

Oxalis (*Sorrel*).

Capf. 5 locular. angulata, cor. basi
sub-cohærens.

Oxalis Acetocella (*Common Wood-Sorrel*).

The leaves and recent plant are used. They possess an intensely acid, but agreeable taste. Their principle resides in a peculiar acid. They are refrigerant, and employed in fevers; and externally, in the form of cataplasm, to scrofulous glandular ulcers. The preparations of this plant are, salt of sorrel, its conserve, and syrup.

CCCCLXXIX.

4. Of the order of decandria, or such plants as have ten stiles, there is one medical article.

CCCCLXXX.

Phytolacca.

Cal. 5 phyllus corollinus, cor. nulla,
bacca 10 cocta.

Phytolacca Decandra (*Virginian Poke-weed*).

The expressed juice of this perennial plant is most used. In its full grown state it is acrid to the taste, and employed as a gentle caustic and remedy against cancer; and the manner of using it is by pouring the expressed juice by drops upon the ulcer.

CCCCLXXXI.

CLASS XI. DODECANDRIA.

This class consists of such plants as bear hermaphrodite flowers, furnished with any number of

Alamina, from 12 to 19 inclusive. * The orders of this class are five.

CCCCLXXXII.

1. The first, or monogynia, comprehends such plants as have but one stile; the medical articles of which are :

CCCCLXXXIII.

Asarum (Asarabacca).

Cor. o. cal. 3-fidus superus, capf.
6-locularis.

Asarum Europæum (Common Asarabacca).

The fibres of the root and leaves are the parts used. They possess, with a fragrant smell, an acrid, nauseous, bitterish taste. Their virtue resides in an acrid volatile principle; and they prove emetic, cathartic, ~~er~~me, diuretic, sudorific, and emmenagogue. They are used in dropsy and intermittents; externally, as an errhine in headach. Their internal form is that of decoction, in the proportion of 2 drams to a lb. of water, taking an ounce every two or three hours.

CCCCLXXXIV.

Winterana.

Cor. 5-petala, cal. 3 lobus inferus,
bacca 3-locularis, 2 sse ma.

Winterana Canella (Laurel-Leaved Canella).

The inner bark of this West Indian tree is the part used. To the taste it is slightly acrid and bitterish. Its qualities are stimulant and carminative. It is employed in dyspepsia in the form

of a powder, to a dose of 30 grains; and in the infusion, in a proportion of half a dram, or 2 drams to the lb. of fluid.

CCCCCLXXXV.

Lythrum.

Cor. 6 petals, cal. 12-fidus inferus,
caps. 2-locularis.

Lythrum Salicaria (*Purple Willow Herb*).

The leaves and root of this perennial plant are the parts used. They possess a styptic quality, and are employed in diarrhœa, chronic dysentery, leucorrhœa, and hemoptysis.

CCCCCLXXXVI.

Garcinia.

Cor. 4 petals, cal. 4 phyllus inferus, bacca, 8 sperm. coronata.

Garcinia Mangostana (*Bread-Fruit Tree*).

The bark is the part used, which possesses a styptic quality, and is employed, in the form of infusion or tincture, in dysentery, tenesmus, and aphtha.

CCCCCLXXXVII.

2. Of the Digynia, or second order, having two styles, there is only one medical article.

CCCCCLXXXVIII.

Agrimonia (*Agrimony*).

Cor. 5 petals, cal. 5 fidus, sem. 1.
2 sperm.

Agrimonia Eupatoria (*Common Agrimony*).

This perennial plant is of an astringent quality, and is little employed.

CCCCCLXXXIX.

3. Of the order of trigynia, or plants having three stiles, there is only the

CCCCXC.

Euphorbia (Euphorbium).

Cor. petal. peltatis, cal. ventricos-
capf. 3 cocca.

Euphorbia Officinsum (Official Sponge).

The concrete juice, or gum resin, is the part used. It possesses an acrid burning taste. Its virtue resides in an acrid resinous principle. It proves drastically cathartic, rubefacient, and vesicatory. Its preparations are a tincture and plaster; the former being used in puncture, and the latter as an application in chronic rheumatism.

The different species of euphorbia are nearly similar in their properties; as, *Euphorbia Lathyris*, (*Caper Sponge*); *Euphorbia Palustris* (*Marsh Sponge*); *Euphorbia Hirsuta* (*Wolf Milch*); *Euphorbia Canescens* (*Anti-Siphylitic Sponge*); *Euphorbia Perviflora* (*id*).

CCCCXCI.

3. Of the other orders of this class, the only remaining article belongs to the dodecagynia, or plants having 12 stiles.

CCCCXCII.

Sempervivum (Houseleek).

Cor. 12-petals, cal. 12-partit.
capf. 12.

Sempervivum Tectorum (Common Houseleek).

The recent juice of this perennial plant is chiefly

used. It possesses an acrid austere taste, with a little acrimony. It proves refrigerant and astringent, and is employed in fevers, burns, aphthæ, and corns.

CCCCXCIV.

CLASS XII. ICOSANDRIA.

This class consists of such plants as bear hermaphrodite flowers with the following characters, a monophyllous and concave calyx, with a corolla fastened by its claws to the inner side of the calyx, and the stamina 20 or more. The two first characters, however, form the distinction. The orders of this class are five.

CCCCXCV.

1. The first, or monogynia, comprehends such plants as have but one stile. Of these the medical articles are,

CCCCXCVI.

Cactus (Fig).

Cal. superus, 1-phyllus, cor. multifida, bacca 1-locularis, polysperma.

Cactus Opuntia (Common Indian Fig).

The leaves of this shrub possess a mucilaginous quality; and, in the form of cataplasm, they are applied to pains, dysentery, and rheumatism.

CCCCXCVII.

Myrtus (Myrtle).

Cal. superus, 5-fidus, cor. sub, 5 petala, bacca 3 locularis, 1 sperma.

Myrtus Communis (Common Myrtle).

The leaves and berries of this tree are the

parts used. They possess an aromatic and slightly styptic taste, with a fragrant smell. In their qualities they are warming and astringent, and employed against profluvia.

CCCCXCVIII.

Myrtus Carophyllatus (*West India Myrtle*).

The bark is the part used. It has an aromatic pungent taste, with a fragrant smell. It possesses stomachic qualities.

CCCCXCIX.

Myrtus Pimenta (*Long-Leaved Pimento*).

The berries are the part used. Their taste is aromatic, with a grateful fragrant smell. Their virtues are, warming, stomachic, and stimulant. They are chiefly used as a seasoning to food.

D.

Punica.

Cal. superus, 5-fidus, cor. 5 petala.
pomum 10 loculare, polyspermum.

Punica Granatum (*Common Pomgranate*).

The petals of the flowers, the bark of the fruit, and the seeds, are all used. They possess a styptic taste, are astringent, diuretic, and anthelmintic. In the form of decoction, or infusion, they are externally used as a fomentation, injection, or gargle, in prolapsus, laxity of the uterula, and gonorrhœa. Internally, they are used in diarrhœa. The proportion of the flowers, or bark, is an ounce to one pound of fluid.

CLASSIFICATION.

DI.

Amygdalus (Almond).

Cal. inferus, 5-fidus, cor. 5 petala.
drupa, nucleo foraminuloso.

Amygdalus Communis (Common Almond).

The variety of which is the bitter and sweet. Their quality resides in a fixed oil. They are nutritive, lubricating, and emollient. The sweet kind are employed in fevers and cough in the form of emulsion, the bitter in drunkenness and worms. The oil is the chief preparation.

DII.

Amygdalus Persica (Peach Tree).

The recent flowers and fruit are the parts used. In their quality, the nuts are oily and mucilaginous, and the smell of the flowers is peculiar.

DIII.

Prunus.

Cal. inferus, 5-fidus, cor. 5 petala.
Drupa, nucleo integro.

Prunus Avium (Small-Fruited Cherry Tree).

The fruit has an acid taste, the kernels have the taste and smell of the laurocerasus.

DIV.

Prunus Cerasus (Cultivated Cherry Tree).

The fruit, kernel, and gum, are all used. The fruit has a sweetish acid taste, and is refrigerant. From the kernels is prepared a distilled water, and the gum is the same as the gum of the mimosa nilotica.

DV.

Prunus Domestica (Common Plum Tree).

The fruit and pulp are the parts used. They possess a mucilaginous sweet taste, with a slight acidity. They are eccoprotic, and employed in fevers and costiveness.

DVI.

Prunus Lauracerasus (Common Laurel).

The leaves are the part used. They are poisonous, and possess a bitter taste. Their virtue resides in a volatile oil and narcotic principle. They prove narcotic, antispasmodic, and deobstruent. The distilled water is used, in a dose of from 30 to 40 drops, in schirrus, cancer, obstruction of the liver, dysuria, siphylis, and phthisis.

DVII.

Prunus Padus (Common Bird Cherry).

The bark is the part used. Its taste is bitter and somewhat styptic. It is employed, in decoction, in the proportion of one ounce to a pound of fluid, and also in extract, in intermittents, and siphylis.

DVIII.

Prunus Spinosa (Sloe Tree).

The berries, flowers, and inspissated juice, are all used. The berries have a styptic sourish taste, the flowers a fragrant smell and bitterish taste. The berries are antiseptic, tonic, and astringent;

the flowers, eccoprotic. The fruit is used in bilious and putrid fevers, and in diarrhæa.

DIX.

3. Of the order of trigynia, or plants having three stiles, the medical articles are :

DX.

Sorbus (*Service Tree*).

Cal. superus, 5-fidus, cor. 5 petala, bacca 3 sperma.

Sorbus Aucuparia (*Mountain Ash*).

The berries are the part used, the juice of which has an acid bitter taste. In the form of rob, they are employed in dropsy, renal calculus, and obstinate strangury.

DXI.

Sorbus Domestica.

The fruit possesses an acid austere taste, and in its qualities it is astringent.

DXII.

3. Of the plants which have five stiles, or the pentagynia, the following medical articles occur :

DXIII.

Mesembryanthemum.

Cal. superus 5 fidus, cor. multifida, caps. carnosa, locularis polysperma.

Mesembryanthemum Crystallinum (*Annual Mercury*).

This annual plant has an agreeable saline cooling taste. The juice is used in spasmodic pain of the bladder, dysuria, ischuria, calculus, and

chincough. The proportion is an ounce and a half to a pound of water.

DXIV.

Pyrus (*Pear Tree*).

Cal. superus, 5-fidus, cor. 5 petala.
pomum 5-loculare polyspermum.

Pyrus Communis (*Common Pear Tree*).

The fruit of this tree possesses a sweetish styptic taste, and is nourishing.

DXV.

Pyrus Cydonia (*Common Quince Tree*).

The fruit, seeds, and bark, are all used. The fruit has a grateful smell, with an acid styptic taste. The seeds are mucilaginous. The quality of the fruit is astringent and cooling, the seeds are emollient, and the bark is emmenagogue. The rob and mucilage are its preparations.

DXVI.

Pyrus Malus (*Apple Tree*).

The fruit possesses an acid sweet taste. They are eccoprotic and refrigerant. In the form of cataplasm they are employed in ophthalmia and putrid ulcers; in decoction, they are exhibited in fevers.

DXVII.

Spiraea.

Cal. inferus, 5-fidus, cor. 5 petala.
caps. plures congestæ.

Spiraea Filipendula (*Single Flowered Dropwort*.)

The root and plant are used. Their qualities

are astringent, and they are employed in leucorrhæa and hernia.

DXVIII.

Spiræa Ulmaria (*Meadow Sweet*).

The root and leaves are here used. They possess a fragrant smell and styptic taste. They are astringent and sudorific, and employed in dysentery and hernia.

DXIX.

4. Of the order of polygynia, or plants having many stiles, the following are the medical articles :

DXX.

Rosa (*Rose*).

Cal. 5-fidus, cor. 5 petals, cal. baccatus polyspermus.

Rosa Canina (*Wild Rose*).

The fruit from the seeds is the part used. It possesses a fragrant smell, with a sweetish styptic taste. In its qualities it is eccoprotic. It is employed in rob, conserve, and decoction.

DXXI.

Rosa Gallica (*Red Rose*).

The petals of this shrub are the parts used. They possess a fragrant smell, and a slightly styptic taste. They are chiefly used as a cosmetic, and also in profluvia. Their form is the watery infusion, conserve, and syrup.

CLASSIFICATION.

255

DXXII.

Rosa Damascena (*Damask*).

The parts used are the same as in the former, and the qualities are also the same.

DXXIII.

Rubus.

Cal. 5 fidus, cor. 5 petala. bacca
composita.

Rubus Idæus (*Raspberry*).

The recent fruit of this perennial shrub is the part used. It possesses a sweetish acid taste, with a grateful fragrant smell. It is refrigerant, and employed in fevers and scurvy. Its preparations are a water, juice, rob, and vinegar.

DXXIV.

Rubus Chamænosus (*Bramble*).

The recent berries possess an acid taste, with a fragrant smell. They are employed in synochus and bilious fevers.

DXXV.

Fragaria.

Cal. 10-fidus, cor. 5 petala, sem.
plurima supra recept. baccatum
decidu.

Fragaria Vesca (*Strawberry*).

The recent fruit, and also the root and plant, are used. The fruit has a sweetish acidulous taste, with a fragrant smell. The root and plant are a little astringent. The qualities of the fruit are diuretic, eccoprotic, and refrigerant.

CLASSIFICATION.

DXXVI.

Potentilla.

Cal. 10-fidus, cor. 5 petala, sem.
plurima mutica.

Potentilla Anserina (Common Cinquefoil).

The root and plant are both used. They are astringent, and used in the chronic state of dysentery.

DXXVII.

Tormentilla.

Cal. 8-fidus, cor. 4 petala, sem. 8
mutica

Tormentilla Erecta (Common Septfoil).

The root is the part of this perennial plant used, which is red and styptic. In its qualities it is tonic and astringent, and employed in menorrhæa and diarrhæa, and joined with gentian in intermittents.

DXXVIII.

Geum.

Cal. 10-fidus, cor. 5 petala, sem.
plurima arista geniculata.

Geum Rivale (Waters Avena).

The root of this perennial plant possesses a taste bitterish and somewhat styptic. It is employed in diarrhæa, chlorosis, and intermittents; externally, in powder to venereal ulcers. The dose is from two scruples to a dram of the powder; and, of the decoction, the proportion is half an ounce to one pound of fluid.

DXXIX.

Geum Urbanum (*Herb Bennet*).

The root and its fibres, the parts used, are somewhat aromatic and bitterish, with something of the smell of cloves. Their virtue resides in an astringent principle, with a little volatile oil. They are tonic and antiseptic, and they are employed in place of the bark in obstinate intermittents, low fevers, dyspepsia, diarrhæa, amenorrhæa, and chlorosis. The forms are the powder in a dose of a dram, in decoction, the proportion being an ounce to one pound of fluid, in extract, and in tincture in doses of half an ounce.

DXXX.

CLASS XIII. POLYANDRIA.

This class contains such plants as bear hermaphrodite flowers furnished with many stamina, and the orders are seven.

DXXXI.

1. Of the first order, or monogynia, comprehending such plants as have one stile, the medical articles are:

DXXXII.

Tetropetali.

Capparis.

Cal. 4-phyllus, *Bacca* pedicellatâ
corticosa.

Capparis Spinosa (*Prickly Caper Bush*).

The bark of the root is the part used. It pos-

sesses a bitterish taste, and is a little styptic. Its qualities are astringent and diuretic. It is used in abdominal fullness and palsy. Its preparation is a fixed oil.

DXXXIII.

Cbelidonium.

Cal. 2 phyllis, filiqua.

Cbelidonium Majus (Common Celadine).

The root and recent plant are both used. Its taste is bitterish and acrid, with a yellow juice. Its virtue lies in an acrid volatile principle. In the form of decoction it is used internally in cachexy, consumption, jaundice, dropsy, and cutaneous diseases.

DXXXIV.

Papaver (Poppy).

Cal. 2-phyllus, capsula 1-locularis coronata.

Papaver Rheas (Common Red Poppy).

The flowers of this annual plant are used. They are bitterish, possess a slight narcotic quality, and form a bright red syrup.

DXXXV.

Papaver Somniferum (Sleepy Poppy).

This annual plant, the natural produce of Egypt and Asia, is chiefly used in the gum resin, or concrete exudation, named opium. It possesses a nauseous acrid bitter taste, with a stinking smell. Its virtues reside in a narcotic principle, united with a volatile gum resin. Its qualities are nar-

cotic, sudorific, and obstipating. In a large dose it is stimulant and cordial. Its exhibition is very general in all cases of pain from irritation or spasm in the end of acute inflammation, in intermittents before the fit, in chronic dysentery, in diarrhæa and cholera, in cough from an acrid phlegm, in painful lochia and hemorrhage from local irritation or spasm, in painful menstruation and atonic gout, in the end of rheumatism, in asthma, in hysteria, in gravel, heartburn, and colic, in asthma, and convulsion, in gonorrhœa and hernia humoralis, in obstinate venereal ulcers, in phagedenic sores, and the gangrene of age. The dose is from one to 15 grains a day. Its forms are, a watery and vinous solution, extract, syrup, and decoction of the heads. Externally, it is employed in the form of glyster, fomentation, and liniment.

DXXXVI.

Gambogia (*Gamboge*).

Cal. 4-phyllus, bacca 8-sperma,
8-angularis.

The inspissated juice of the branches of this Indian tree is the part used. It is dark coloured and yellow at the same time, insipid, and inodorous. Its virtue resides in a resinous gummy principle. It is drastically cathartic, diuretic, and slightly emetic. It is employed in dropsy, costiveness, tenia, jaundice, quartan fever, cachexy, and cutaneous diseases. From 3 to 4 grains is the

dose in dropsy, from 10 to 20 in worms, and from 1 to 2 grains in costiveness. The dose of its tincture is from 1 to 2 drams. Where too powerful, its antidote is an alkali.

DXXXVII.

Caryophyllus.

Cal. superus, bacca 1-sperma coronata.

Caryophyllus Aromaticus (Cloves).

The flowers, with the immature pericarpium, are the parts used. Their taste is aromatic, acrid, and pungent, with a grateful fragrant penetrating smell. Their virtue resides in a volatile and acrid resinous principle. They are stimulant, calefacient, sialogogue, stomachic, and emmenagogue. They are employed in dyspepsia, lingual palsy, and toothach. The dose is from a scruple to a dram in powder or infusion, watery or vinous. The volatile oil is their only preparation.

DXXXVIII.

Tilia.

Capf. 5-locularis coriacea, 1 sperma, cal. deciduus.

Tilia Europea (Common Lime Tree).

The flowers are used, which have a fragrant smell, and are antispasmodic. The infusion and distilled water are given in spasms.

DXXXIX.

Myristica Aromatica (Nutmeg).

The fruit, and skin of it called mace, are the parts used. It possesses a pleasing bitterish aromatic styptic taste, with a fragrant smell. Its virtue resides in a volatile oil, and fixed aroma. It is stimulant, stomachic, carminative, obstipating in a large dose, hypnotic, and sedative. It is exhibited in dyspepsia, flatulence, colic, diarrhæa, and strangury. The dose is from 4 grains to 20. The preparations are the candied fruit, a volatile oil, and also a fixed oil.

DXL.

Cistus.

Capf. subrotunda, cal .5-phylli foliis. 2 minor.

Cistus Creticus (Gum Cistus).

The exudation from the leaves is the part used. It is a bitter resin, of a stimulant and aromatic nature, used for plasters and fumigations, having a pleasing smell.

DXLI.

Thea (Tea).

Cal. 5, f. 6 phyllus, petala 6, f. 9, capf. 3 locul. sem. solitaria.

Thea Bohea (Broad and Narrow Leaved Bohea).

The leaves of this shrub, the parts used, have a slightly astringent taste, and grateful smell. In their qualities they are astringent, and hurtful to the relaxed.

CLASSIFICATION.

DXLII.

Thea Viridis (Green Tea).

The leaves have the same taste as the former, with a more fragrant and grateful smell.

DXLIII.

Bixa.

Cal. 5-dentatus, cor. 5 petala duplex, caps. 2-valvia.

Bixa Orellana (Anotto).

The root and feculum of the capsules is the part used. The feculum is red, with a slight bitter and styptic taste. The quality of the root is diuretic. Both parts are used as a dye.

DXLIV.

2. Of the plants that have two stiles, or digynia, the only medical article is :

DXLV.

Pogonia.

Cal. 5-phyllus, cor. 5 petals, caps. polyserma, sem. colorata.

Peonia Officinalis (Common Peony).

The root, flower, and seed, are all used. The recent root has a rank stinking smell; when dried, it has a farinaceous and somewhat styptic taste. It is narcotic, antispasmodic, and astringent. It is employed in epilepsy and intermittents.

DXLVI.

3. Of the plants having three stiles, or trigynia, the articles are :

DXLVII.

Delphinium.

* Cal. nullus, cor. 5 petala, supremo
cornuto nectar, 2-fidum, sessile.

Delphinium Staphisagria (Stave-Acre).

The seeds are the part used. They have a bitter acrid nauseous taste. Their virtue is drastringly cathartic, anthelmintic, and a specific against vermin. They are used chiefly in the form of ointment with this last view.

DXLVIII.

Aconitum.

Cal. nullus, cor. 5 petala. supremo
galateo nectar, 2 pedicillata.

Aconitum Anthora (Aconite).

The root of this poisonous plant possesses an acrid bitter taste. It is cathartic and anthelmenthic.

DXLIX.

Aconitum Cammarum (Purple Wolfsbane).

The leaves and plant possess an acrid taste and nauseous smell. Its virtue resides in an acrid principle. It is sudorific and diuretic. It is employed in chronic rheumatism, in amaurosis, and obstinate ulcers.

DL.

Aconitum Napellus.

This species is only weaker than the former. Its antidote is the ranunculus thora.

DLI.

4. Of the plants that have four stiles, or tetragynia, there is only one medical article :

DLII.

Cimicifuga.

Cal. 4 phyllus, cor. nectariis, 4
urcedatis, caps. 4 sem. synamorfæ.

Cimicifuga Fœtida.

This Siberian plant has a bitter taste and rank smell. It is antispasmodic and resolvent. It is employed in spasms and bronchocele.

DLIII.

5. Of the plants that have five stiles, or pentagynia, the medical articles are :

DLIV.

Aquilegia (Colombine).

Cal. nullus, cor. 5 petala nectaria,
5 inferne cornuta

Aquilegia Vulgaris (Common Colombine).

The plant, flowers, and seed, are all used. It is of a poisonous nature, the seeds are mucilaginous and oily. The plant is employed in jaundice and cutaneous diseases.

DLV.

Nigella.

Cal. nullus, cor. 5 petala. nectaria,
3 superne, 2 labiata.

Nigella Sativa (Small Fennel Flower).

The seeds of this poisonous plant are the parts used. Their taste is acrid and aromatic, with a

fragrant smell. Their virtue resides in a volatile and fixed oil. They are stimulant, lactiferous, errhine, sialogogue, emmenagogue, and anthelmintic.

DLVI.

5. Of the order of polygynia, or plants having many stiles, the articles are numerous.

DLVII.

Illicium.

Cal. 6 phyllus, cor. pet. 27, caps.
1, spermæ in orbem.

Illicium Anisatum (Indian Anise).

The fruit and seed of this Chinese tree are the parts used. They possess an aromatic sweet taste, like anise, with a fragrant aromatic smell. They are stimulant, stomachic, carminative, and expectorant. They are employed in atonic diseases of the lungs, and are often mixed in infusion with tea, to render it more grateful. The forms are, the powder in a dose of 30 grains, or the infusion in the proportion of a dram to 1 lb. of fluid.

DLVIII.

Anemone.

Cal. nullus, cor. 6 petals, sem.
plurima.

Anemone Hepatica.

The root and flowers are both used, which are insipid and inodorous.

DLIX.

Anemone Nemorosa (*Wood Anemone*).

The plant and recent flowers are both used. In its nature it is poisonous. Its virtue resides in a volatile acrid principle. Externally, it is employed, in the place of cantharides, in headach, tertian, chronic rheumatism, and ischias.

DLX.

Anemone Pratensis (*Meadow Anemone*).

The plant is used. It is very acrid and poisonous; and its virtue resides in an acrid principle. It is corrosive, rubefacient, resolvent, and diuretic. The inspissated juice is used in amaurosis and palsy, from 1 to 8 grains; and in infusion, in the proportion of 1 and 3 drams to 1 lb. of fluid. Externally, this plant is applied in ulcerations, herpes, and caries.

DLXI.

Clematis.

Cal. nullus, cor. 4. petala, sem.
plurima aristata.

Clematis Recta (*Upright Virgin's Bower*).

The plant and flowers are used. Their virtue resides in an acrid principle. They are corrosive, vesicant, and diuretic. They are employed in venereal exstosies; and the powder is externally applied to venereal, phagedenic, and cancerous ulcers. The dose of the extract is from 1 to 3 grains; and the infusion is made in the proportion of

2 and 3 drams of the dried plant to 1 lb. of fluid.

DLXII.

Clematis Vitalba (Common Virgin's Bower).

The leaves are the part used. They possess an acid sweetish styptic taste. Their virtue resides in an acrid principle. They are astringent, corrosive, and diuretic. The infusion is used in dropsy; and the juice, mixed with oil, is an application in itch.

DLXIII.

Ranunculus.

Cal. 5 phyllus, cor. 5 petala. sem.
plurima, cor petala. ungue ac-
tarif.

° *Ranunculus Abortivus.*

The leaves are the part used. They are acrid and vesicant, and employed in siphylis.

DLXIV.

Ranunculus Flammula.

The leaves and young stalks are here used, which are acrid and corrosive. They are employed externally in chronic rheumatism, and to the wrists to suspend the attack of intermittents. The distilled water is caustic. Several other species of ranunculus agree with this in their qualities, as alpinus, arvensis, bulbosus, illyricus, lingua, sceleratus thora.

DLXV.

Ranunculus Ficaria (*Lesser Celadine*).

The recent root of this perennial plant is used as a cosmetic. In its nature it is insipid.

DLXVI.

Heleborus.

Cal. nullus, cor: 5 petalo periofteus,
polypermæ nectaria plura.

(*Heleborus Fœtidus*) *Fœtid Hellebore*.

The plant, leaves, and expressed juice, are all used. Their taste is acrid, bitter, and nauseous, with a rank smell. They are emetic, cathartic, anthelminthic, and deobstruent. They are employed in asthma, hypochondriasis, hysteria, abdominal obesity, and worms.

DLXVII.

Heleborus Niger (*Black Hellebore*).

The fibres of the root are the parts used. Their taste is bitterish and acrid, with a foetid nauseous smell. Their virtue resides in an acrid principle, united with a mucilage and resin. In their recent state they are drastically cathartic, diuretic, emmenagogue, anthelminthic, and deobstruent. They are employed in amenorrhœa, melancholy, mania, cutaneous diseases, quartans, dropsy, worms, and itch. The forms of using it are, the powder in a dose of 3 to 30 grains; the infusion, in a proportion of 3 drams to 1 lb. of fluid; the tincture, in doses of 1 dram; and extract, from 4 grs. to half a dram.

DLXVIII.

Heleborus Viridis (Green Hellebore).

The taste is more bitter, acrid, and nauseous than the former; in their qualities they agree.

DLXIX.

CLASS XIV. DIDYNAMIA.

This class consists of such plants as bear hermaphrodite flowers furnished with four stamina, two of which are larger than the rest, and form their leading character. This class comprehends two orders.

DLXX.

1. The first is the gymnospermia, or plants that have naked seeds; the medical articles of which are;

DLXXI.

Teucrium.

Corollæ lab. superius, nullum sed
bipartitum.

Teucrium Chamydrys (Common Germander).

This perennial plant has a bitter aromatic taste, with an aromatic fragrant smell. It is stimulant, emmenagogue, and discutient. It is employed in infusion in intermittents, gout, and chlorosis.

DLXXII.

Tenerium Chamapitys (Ground Pine Germander).

This annual species has the same bitter aromatic taste, with a resinous smell. It is stimulant, stomachic, emmenagogue, and discutient.

The infusion is used in chronic rheumatism and gout, in the proportion of 2 or 3 drams to 1 lb. of fluid.

DLXXIII.

Teucrium Criticum.

The herb and tops are the parts used. Their qualities are stomachic, and they are employed in jaundice.

DLXXIV.

Teucrium Marum (Cat Thyme).

The same parts are used as in the former species. They possess an acrid bitter taste, with a fragrant camphorated smell. Their virtue resides in a volatile camphorated resin. They are nervine, antispasmodic, cortical, errhine, and discutient. They are exhibited in spasms, hysteria, cachexy, sapose diseases, want of smell, and asthma. Their forms are that of powder, in 20 or 30 grains; and infusion, in the proportion of 2 ounces, or 3, to a lb. of fluid.

DLXXV.

Teucrium Scordium (Water Germander).

This perennial plant is all used. Its taste is aromatic, bitter, and acrid. Its qualities are stomachic, sudorific, anthelmintic, and discutient. It is employed, externally, in the form of a venous or ocetous infusion in ecchyma, gangrene, and ulceration.

DLXXVI.

Satureja.

Corolla laciniis subæqualibus, stamina remota.

Satureja Hortensis (*Summer Savory*).

The plant is all used. It has an aromatic taste and fragrant smell. It is nervine, stimulant, emmenagogue, stomachic, and aphrodisiac. It is chiefly employed in amorexia and impotence.

DLXXVII.

Hyssopus.

Filamenta, distantia, recta; cor. ringens.

Hyssopus Hortensis (*Common Hyssop*).

This plant has a bitter and somewhat aromatic taste, with a nidorous smell. Its virtue resides in a volatile oil, with a bitter extractive principle. It is stomachic, greatly stimulant, expectorant, and resolvent. Its infusion is employed in catarrhal affections of the lungs, and in ecchymomum.

DLXXVIII.

Nepeta.

Corollæ lab. inferus crepatum; fauce margine reflexo.

Nepeta Cataria (*Common Cat Mint*).

This perennial plant has a nauseous bitter taste, and a goatish smell, very agreeable to the saline tribe. It is nervine, emmenagogue, and anthelmintic. It is exhibited in hysteria and chlorosis.

DLXXIX.

Lavandula.

Corolla resupinata.

Lavandula Spica (Common Lavender).

The flowers are the part used. They possess a bitter aromatic taste, and fragrant smell. Their virtue resides in a copious volatile oil. They are stimulant, nervine, and resolvent. They are employed in palsy, aphonia, and baldness. Their preparations are in volatile oil, water, spirit, and compound tincture.

DLXXX.

Mentha.

Filamenta distantia, recta; cor. subaequalibus.

Mentha Auricularis.

This Oriental species is fragrant and bitter. In its powers it is deobstruent, and employed against tumors.

DLXXXI.

Mentha Cervina (Hyssop-Leaved Mint).

This species possesses an aromatic taste and fragrant smell.

DLXXXII.

Mentha Crispa (Curled Mint).

The leaves and plant are both used. They possess an aromatic taste, with a fragrant smell. Their virtue resides in a volatile oil. They are stimulant, carminative, emmenagogue, antiphrodisiac, and resolvent. They are employed in

headach, in hysteria, anafexia, vomiting, cholic, chincough, and filynafis. Externally, in pains of the joints from fpafms, in milk coagulations in the breast, in ecchymome, and in cold tumors. The proportion of the infusion is an ounce to 1 lb. of fluid. The preparations of this plant are in volatile oil, spirit, water, conferve, and syrup.

DLXXXIII.

Mentha Piperita (Peppermint).

This perennial species has an acrid aromatic taste, with a sense of coldness, and a fragrant smell. Its virtue resides in a volatile camphorated oil. Its qualities are the same as the former species, and it is employed against the same diseases, and under the same forms.

DLXXXIV.

Mentha Pulegium (Penny-Royal Mint).

It is much the same as the mentha crispa.

DLXXXV.

Mentha Viridis (Spear Mint).

This species also resembles the mentha crispa.

DLXXXVI.

Glecoma.

Antherarum paria cruciata.

Glecoma Hederacea (Ground Ivy).

This perennial plant possesses a bitterish and acrid taste. It is expectorant and tonic. The infusion in milk, or water, is employed in the

end of catarrh, and the ulcerated stage of consumption.

DLXXXVII.

Betonica.

Corollæ lab superius planum, ascendens, tubo cylindrico; stam. longitudine faucis.

Betonica Officinalis (Wood Betony).

The plant, flowers, and root, are all used. They possess a nidorous sickly smell. They are nervine, and but little employed.

DLXXXVIII.

Marrubium.

Calyx 10-striatus; corollæ lab superius fornicatum.

Marrubium Vulgare (Common White Hoarhound).

The plant and recent juice are both used. Its taste is bitterish, saline, and unpleasant, with a rank smell. It is expectorant, emmenagogue, and anthelminthic. It is employed in moist asthma, in jaundice, chlorosis, abdominal fullness, and mercurial ptyalism.

DLXXXIX.

*Calyces Bilabiati.**Origanum.*

Str. bilus calyces colligens.

Origanum Creticum (Dittany of Crete).

The spicæ of this perennial plant are the parts used. Their taste is acrid, aromatic, and bitter. Their smell is grateful and fragrant. They are sti-

mulant, emmenagogue, and resolvent. It is employed, in the form of a volatile oil, in toothach, and also in the baths.

DXC.

Origanum Dictamnus (*Dittany of Candia*).

The leaves are the part used. They possess an aromatic warm taste, with a fragrant smell. Their virtue resides in a volatile oil. They are stimulant, nervine, stomachic, emmenagogue, and resolvent.

DXCI.

Origanum Marjorana (*Sweet Marjoram*).

This plant has an aromatic taste, with a fragrant grateful smell. Their virtue resides in a volatile oil. They possess the same qualities as the former species, and are employed in anasmia and coryza. Their preparation is a volatile oil.

DXCII.

Origanum Vulgare (*Common Marjoram*).

The taste of this plant is aromatic, bitterish, and somewhat acid. The smell is fragrant and grateful. Its virtue resides in a volatile oil. It is stimulant, nervine, and resolvent. It is employed in cough, pulmonary consumption, chlorosis, and œdema. It is frequently used in broths, and as a substitute for tea. Its preparation is a volatile oil.

DXCIII.

Thymus.

Calyx fauce villis clausus.

Thymus Serpyllum (Wild Thyme).

This plant has a taste somewhat styptic, with a fragrant aromatic smell. Its virtue resides in a volatile oil. It is stimulant, nervine, stomachic, and resolvent. It is employed in headach after a debauch, and in uterine baths. Its preparation is a volatile oil.

DXCIV.

Thymus Vulgaris (Garden Thyme).

This plant has a fragrant aromatic smell, and its virtue resides in a volatile oil. It is nervine, stomachic, emmenagogue, carminative, and resolvent. It is employed in leucophlegmosia, coryza, and epiphora.

DXCV.

Melissa.

Cal. angulatus firiosus, labio superiore ascendente.

Melissa Calamintha (Mountain Balm).

This plant possesses a slight aromatic taste, with a weak smell of citron. It is stomachic, expectorant, and resolvent. It is employed in asthma.

DXCVI.

Melissa Officinalis (Common Balm).

This perennial plant has an aromatic taste, with a fragrant smell like citron. Its virtue resides in a volatile oil. It is gently stimulant, nervine,

antispasmodic, and emmenagogue. It is given in hysteria, palpitation, chlorosis, and amenorrhæa. Its preparations are an infusion, water spirit, and volatile oil.

DXCVII.

Melittis.

Cal. tubo corollæ amplior; corollæ
lab. superius planum integrum,
antheræ cruciatæ.

Melittis Melissophyllum (Bastard Balm).

The leaves have a bitterish taste, and a fragrant pleasing smell. They are employed in amenorrhæa and nephritis.

DXCVIII.

Ocymum.

Corolla resupinata, filamenta bina
basi processa.

Ocymum Basilicum (Common Sweet Basil).

The plant and seeds are both used. The former has an aromatic taste and fragrant smell, the latter are mucilaginous. They are nervine, and employed in vomiting and rheumatism.

DXCIX.

2. Of the Angiosperma, or such plants as have seeds in a pericarpium, the medical articles are :

DC.

Anthirrinum.

Capf. 2 locularis; cor. personata
subtus nectario prominente.

Anthirrinum Linaria (Yellow Toad-Flax).

This biennial plant has a bitterish taste, with a

rank resinous smell. It is diuretic, eccoprotic, alterative, and resolvent. It is employed in jaundice and dropsy; and externally, in ophthalmia and swelling of the anus. Its preparation is an ointment.

DCI.

Scrophularia.

Capf. 2 locularis; cor. resupinata
lab. segmentis intermediis internis.

Scrophularia Aquatica (*Water Fig-wort*).

The leaves of this perennial plant have a bitter taste, with a weak foetid smell. Its virtue is stomachic and carminative, and it corrects the nauseous taste of senna in infusion.

DCII.

Scrophularia Nodosa (*Knobby-rooted Figwort*).

The root of this perennial plant possesses a bitterish nauseous taste, with a rank foetid smell, which becomes dissipated by drying. It is carminative, anthelmintic, and sudorific. It is employed in scrofula, swelling of the anus, itch, and cynanche.

DCIII.

Digitalis.

Capf. 2 locularis; cor. campan.
subtus ventric. flam. declinata.

Digitalis Purpurea (*Purple Fox-Glove*).

The leaves of this biennial plant possess an acrid bitter nauseous taste. They are emetic, drastically cathartic, and diuretic. They are employed in

hydrothorax, dropsy, gravel, epilepsy, and mania; from venous effusion in dysury, pulmonary consumption, and scrofula.

This medicine requires a very cautious use; in powder, from 1 grain to 3 or 4 is the dose; in infusion, the proportion is an ounce to one pound of fluid. Its preparation is a syrup.

DCIV.

Linnaea.

Bacca 3-locul. sicca; cor. campanul.
cal. superus.

Linnaea Borealis (Two Flowered Linnaea).

This plant has a bitterish and slightly styptic taste. The flowers have a fragrant smell. Its qualities are somewhat astringent and diuretic. It is employed in chronic rheumatism and itch. Its form is an infusion in milk and water.

DCV.

Sesamum.

Capf. 2 locularis; cor. campanul.
inæqualis; rudim. filamenti 5ti.

Sesamum Orientale (Oriental Sesamum).

The seeds of this annual plant are oily and emollient. They are employed in pains, pruritus, marasmus, and phlegmon.

DCVI.

Avicennia.

Capf. 1 locul coriacea; cor. labio
superiore quadrata.

Avicennia Tomentosa (Oriental Anacordium).

The kernels and juice of the pulp are used.

The former are sweet and oily, the latter very acrid and corrosive. Hence it is used, mixed with lime, for imprinting indelible characters on silk and linen.

DCVII.

Bignonia.

Capf. 2-locularis; cor. campanulata,
sem. alata, imbricata.

Bignonia Ophthalmica.

The root and expressed juice are used in inflammation of the ocular membranes, in the quantity of a drop or two inserted every morning.

DCVIII.

CLASS XV. TETRADYNAMIA.

This class consists of such plants as bear hermaphrodite flowers furnished with six stamina, two of which are shorter than the rest. The flowers, also, of this class, have a particular structure. Its orders are two.

DCIX.

1. The Siliculosa, comprehending such plants whose pericarpium is a silicula, the medical articles are:

DCX.

Lepidium.

Silic. cordata; valvulis acute car-
natis.

Lepidium Sativum (Garden Cresses).

The recent plant and seeds are used. Their virtue depends on a mild acrid principle. They

are diuretic and antiscorbutic. They are employed in scurvy, dropsy, and some cutaneous diseases.

• DCXI.

Cochlearia.

Silic cordata ; *valvulis obtusis, gibbis,*

Cochlearia Armoracia (Horse Radish).

The recent root and expressed juice are both used. Their virtue resides in an acrid volatile principle. They are emetic, diuretic, antiscorbutic, and rubefacient. They are employed in cachexy, quartan fever, scurvy, dropsy, pituitous asthma, palsy, chronic rheumatism, and paraphonia. The recent root is given rasped down to two scruples for a dose ; the expressed juice, in half a dram in a proper vehicle. The preparations of this plant are, the juice, distilled water, spirit, and infusion watery and vinous.

DCXII.

Cochlearia Officinalis (Common Scurvy Grass).

The recent plant and juice are both used. Their taste is acrid, and their virtue resides in a volatile acrid principle. They are diuretic, antiscorbutic, and alterative. Both are employed in scurvy and cachexy. Their preparations are, the conserve, which is given in a dose from one to two drams ; the juice, from one to three ounces.

• DCXIII.

2. The second order, or *siliquosæ*, comprehends

those plants whose pericarpium is a siliqua, and of this order the medical articles are:

DXCIV.

Raphanus.

Siliqua articulata.

Raphanus Sativus (*Garden Radish*).

The recent root and juice are used. They possess an acrid principle. They are stimulant, diuretic, resolvent, and rubefacient. The expressed juice is employed in scurvy, asthma, hoarseness, and ischuria.

DCXV.

Erysimum.

Siliqua tetragona.

Erysimum Alliuria (*Stinking Hedge Mustard*).

This plant has an alliaceous smell and bitter taste. An acrid principle distinguishes it. It is diuretic, errhine, and antiscorbutic. It is used in asthma and putrid ulcers.

DCXVI.

Erysimum Barbarea (*Common Winter Hedge Crop*).

The leaves of this perennial plant have a taste bitter and somewhat acrid, with an herbaceous smell. Their qualities are antiscorbutic.

DCXVII.

Chieranthus.

Siliqua germine utrinque glandula notato.

Chieranthus Cheiri (*Wild Wall Flower*).

The flowers possess a yellow colour and fragrant

smell. Their virtue resides in a volatile principle. They are nervine and narcotic, and used against pains.

DCXVIII.

Brassica.

Glandulæ 2 intra stamina breviora; 2 extra stamina longiora.

• *Brassica Oleracea (Cabbage).*

The leaves are watery and inodorous. They are used; boiled or salted, under the name of sawer krant, in scurvy. The decoction is employed in hoarseness, cough, scurvy, and burns. In the form of cataplasm they are applied to milk breasts.

DCXIX.

Brassica Eruca.

The seeds and leaves are both used. They have an acrid hot taste, and as penetrating as mustard. Their virtue resides in a volatile principle. They are considered as aphrodisiac, and employed in lingual palsy.

DCXX.

Brassica Rapa (White Turnip).

The recent root and expressed juice are used. Their virtue resides in a saccharine and mucilaginous principle. They are flatulent and diuretic. The expressed juice is employed in consumption, asthma, and strangury, and also in toothach and aphthæ. In the form of cataplasm it is applied to tumors and the gout.

CLASSIFICATION.

DCXXI.

Cardamine.

Siliqua dehiscens; valvulis revolutis.

Cardamine Pratensis (Ladies Smock).

The petals and leaves are used. Their virtue resides in a slightly acrid principle. The petals are antispasmodic, the leaves antiscorbutic.* The former are employed in convulsion and choria, in doses from a scruple to half a dram.

DCXXII.

Sisymbrium.

Siliqua dehiscens; valvis rectiusculis; cal. patulus.

Sisymbrium Nasturtium (Common Water Cresses).

The recent plant and expressed juice are used. They possess an acrid bitterish taste when chewed, shewing a pungency at last. Their virtue resides in an acrid principle. They are diuretic and antiscorbutic. They are used in scurvy and obstipation. The juice is given in a dose of two ounces.

DCXXIII.

Sisymbrium Sophia (Flix Weed).

The seeds of this annual plant are acrid and warm, and display an acrid principle. They are anthelminthic.

DCXXIV.

Sisymbrium Tenuifolium.

This species is the same as the first.

DCXXV.

Sinapis.

Siliqua dehiscens.

Sinapis Alba (White Mustard).

The seeds and their flour are used, the virtue of which resides in an acrid principle, with a volatile and fixed oil. They are rubefacient and stimulant, and externally employed in cataplasms.

DCXXVI.

Sinapis Nigra (Common Black Mustard).

The same parts are used as in the former, and they are the same also in quality, but more acrid; hence stimulant, slightly emetic, diuretic, and cathartic: externally, rubefacient and vesicatory. Internally, they are used in dyspepsia, in moist asthma, in obstipation, scurvy, dropsy, intermittents, and palsy: externally, in herpes and chronic rheumatism.

DCXXVII.

Crambe.

Siliqua decidua, globosa, siccobaccata; filamenta 4-apice bifurca.

Crambe Orientalis (Colewort).

The recent root of this perennial plant is used, whose virtue resides in an acrid principle, and whose qualities are antiscorbutic.

DCXXVIII.

CLASS XVI. MONADELPHIA.

This class consists of such plants as bear herma-

phrodite flowers, furnished with one set of united stamina. This class consists of nine orders.

DCXXIX.

The 1st of these that contain any medical article is the decandria, comprehending such plants as have 10 stamina.

DCXXX.

Geranium.

Monogyna; caps. 5 cocci. reſtrata.

Geranium Moschatum.

This annual plant has an ambrosial ſmell, and derives its name from its muſky flavor.

DCXXXI.

Geranium Robertianum (Herb Robert).

This plant has a ſaltish and ſomewhat ſtyptic taſte, with a goatish ſmell. It is ſomewhat aſtringent and repellent of the milk. It is employed in hincſuria and profluvia; externally, in bubo, and ulcers of the valva and breasts.

DCXXXII.

2. The next order is the dodecandria, or ſuch plants as have 12 stamina.

DCXXXIII.

Pentapetes.

Monogyna; caps. 5-locularis, polyſperma; ſtam. 5-elongata, colorata.

Pentapetes Mubucanda.

The flowers are the part uſed, which are of a

mucilaginous quality; and their recent infusion is employed in gonorrhœa; and the dried powder as a snuff in nervous headach.

DCXXXIV.

3. The last order of this class is the polyandria, or such plants as have many stamina.

DCXXXV.

Althea.

Polygyna; cal. exter. 9-fidus; arilli
1-spermi, verticillati.

Althea Officinalis (Marsh Mallow).

The root and plant are both used. They are mucilaginous and insipid, and are lubricating and emollient. They are employed in cough, hoarseness, and strangury; externally, in the form of glyster or cataplasm in tenesmus, phlegmon, and pain. Their preparations are a decoction, syrup, paste, and ointment.

DCXXXVI.

Alcea.

Polygyna; cal. exter. 6-fidus,
arilli 2 spermi, plures.

Alcea Rosea (Common Hollyhock).

• Its quality is fatuous and mucilaginous, hence lubricating and emollient. Their infusion is used in the form of gargle in cynanche.

DCXXXVII.

Malva.

Polygyna; cal. exter. 3-phyllus,
 arilli 1-spermi, verticillati, plures.

Malva Rotundifolia (Round Leaved Mallow).

The root and plant are both are used. They
 fatuous and mucilaginous; hence they are lubri-
 cating, demulcent, and relaxing. They are em-
 ployed in phlegmon, strangury, and cough.

DCXXXVIII.

Hibiscus.

Mynogyna; cal. exter. 5-fidus;
 caps. loculis polyspermis, co-
 adnatis.

Hibiscus Abelmoschus (Target-leaved Hebiscus).

The seeds, the part used, have a peculiar musky
 smell, and are chiefly used as a perfume. They
 have been employed in tenia.

DCXXXIX.

CLASS XVII. DIADELPHIA.

This class consists of such plants as bear herma-
 phrodite flowers, marked with two sets of united
 stamina. The orders are four.

DCXL.

1. Hexandria, or such plants as have 6 stamina.

DCXLI.

Fumaria.

Cal 2 phyllus; cor. ring. basi gib-
 bosa nectarifera; filam. antheris 4.

Fumaria Officinalis (Common Fumitory).

The recent plant and juice are used. They

possess a taste purely and intensely bitter, without any smell. They are stomachic and antiacid. They are exhibited in dyspepsia, cutaneous diseases, cachexy, and abdominal obesity. The dose of the juice is 2 ounces; of the extract, from 1 to 2 drams. The preparations are, an extract, conserve, syrup, and tincture.

DCXLII.

2. Oclandria, or such plants as have 8 stamina.

DCXLIII.

Polygala.

Cal. 2 laciniæ ælæformes, cor. vex.
cylindricum.

Polygala Amara (*Bitter Milkwort*).

The root and leaves are used. The root is bitterish and sweet, the leaves intensely bitter. Their qualities are stomachic. The root is employed in pectoral diseases combined with weakness, in chincough, and pulmonary consumption. The dose is half a dram of the powder; the decoction of the root is in the proportion of two ounces to two lbs. of fluid reduced to one.

DCXLIV.

Polygala Senega (*Rattle Snake Root*).

The root and its bark are the parts used. Their taste is acid, with an acrimony and slight aroma, towards the end becoming intensely bitter and pungent. Their virtue resides in a resinous principle. They are somewhat emetic, cathartic,

sudorific, diuretic, expectorant, salagogue, and deobstruent. They are exhibited in dropsy, rheumatism, gout, pectoral diseases from weakness, bites of serpents, consumption, and pleurisy. The dose of the powder is from 10 to 30 grains; of the decoction the proportion is a scruple or half a dram to 1 lb. of fluid. The preparations are, the decoction, vinous infusion, and tincture.

DCXLV.

3. Decandria, or such plants as have ten stamina.

DCXLVI.

Pterocarpus.

*Legum foliaceum, stamina bina tri-
anthera.*

Pterocarpus Draco (Dragon's Blood).

The concrete juice and resin are used. It is red, styptic, and without smell. Its qualities are those of an astringent, and it is employed in profluvia, diarrhæa, and hemorrhages.

DCXLVII.

Pterocarpus Santalinus (Red Sanders).

The wood is the part used, which forms a deep red paint.

DCXLVIII.

Spartium.

*Filamenta adherentia germini, stig-
ma adnatum, villosum.*

Spartium Scoparium (Common Broom).

The plant, tops, and seed, are all used. They possess a bitter nauseous taste. Their qualities

are diuretic and cathartic. They are employed in dropsy. The proportion in decoction is 1 ounce of the tops to 6 ounces of water. The preparations are, an extract, infusion, and decoction.

DCXLIX.

Genista.

Pistillum deprimens carinam, stigma involutum.

Genista Canariensis (Canary Genista).

The wood and root are the parts used. It has a bitterish resinous taste, with a fragrant rosy smell. Its qualities are sudorific. Its preparation is a volatile oil.

DCL.

Canariensis Tinctoria.

The plant, flowers, and seed, are all used. They give a deep yellow colour, are insipid and inodorous. They are used in dropsy.

DCLI.

Ononis.

Legumen rhombeum, sessile, vexillum striatum.

Ononis Arvensis et Spinosa (Thorny, Purple, and White Rest Harrow).

The root and plant are both used. They possess a taste somewhat acrid and unpleasant. They are diuretic, and employed in hernia humoralis, hydrocele, jaundice, and ischuria. The dose of the powder is a dram; and the proportion to the decoction is half an ounce to 1 lb. of fluid.

CLASSIFICATION.

DCLII.

Dolichos.

Vexillum basi callis duobus

Dolichos Ureno (*Goose Itch Dolichos*).

The hairy down is the part used. It is anthelmintic, and exhibited against the lumbrici, in a dose of from 1 to 4 drams, in syrup or mucilage.

DCLIII.

Dolichos Pruriens (*Common Horse Eye Bean*).

This species is the same in qualities as the former.

DCLIV.

Vicia.

Stylus sub stigmate barbatus.

Vicia Faba (*Common Garden Bean*).

The flowers and seed are used. The former have a fragrant smell, the latter is farinaceous. The flowers are used as a cosmetic, and the flour of the seeds in cataplasms.

DCLV.

Glycyrrhiza.

Cal. 2-labiatum, superiore 3-fido.

Glycyrrhiza Glabra { *Common Licorice.* }
Glycyrrhiza Echinata { }

The root and expressed juice are used. The former possesses a sweet, bitterish, and somewhat acrid taste. Its virtue resides in a mucilaginous saccharine principle. It is demulcent and expectorant. It is generally used in infusion with other substances. The extract is employed in catarrh, paraphonia, and strangury.

DCLVI.

Geoffræa.

Drupa nucleis ligneis.

Geoffræa Inermis (Bastard Cabbage Tree).

The bark of this West India tree is the part used. It is nauseously sweet, with a nauseous smell. Its qualities are drastically cathartic, emetic, and anthelmintic. The decoction is employed in lumbrici and ascarides; the proportion is an ounce to two lbs. of fluid.

DCLVII.

Geoffræa Surinamensis (Surinam Bastard Cabbage Tree).

Its qualities are the same as the former, but more efficacious as an anthelmintic. It is used also in decoction, the proportions being 3 drams to 8 ounces.

DCLVIII.

Indigofera.

Carina utrinque denticulata.

Indigofera Tinctoria (Indigo).

The feculum is the part used. It is chiefly remarkable as a dye, though it has been exhibited in diarrhæa, and the lochia in excess.

DCLXIX.

Astragalus.

Legum. 2-locularis, rotundatum.

Astragalus Excapus (Hairy podded Milk Vetch).

The root of this perennial plant is remarkable

for its antisiphylitic virtues. It is used in decoction in siphylis, in the proportion of 2 ounces to 3 lbs. of fluid.

DCLX.

Astragalus Tragacantha (*Gum Tragacantha*).

The concrete juice is used, which is mucilaginous, and hence lubricating and obtunding. It is exhibited in cough, hoarseness, and strangury.

DCLXI.

Trifolium.

*Legum vix calyce longius, 1 f. 2-
specimen, flores capitati.*

Trifolium Melilotus (*Common Melilote Trifoil*).

The flowers and plant are used. They possess an acrid bitter mucilaginous taste, with a heavy fragrant smell. Their virtue resides in a volatile oil. They are emollient and resolvent. In the form of cataplasm they are applied to tumors. Their preparation is a plaster.

DCLXII.

Trifolium Repens (*White Trifoil*).

The flowers possess a sweet smell, and are used in the gout.

DCLXIII.

Trigonella.

*Vexillum alæque parentes quasi tri-
petalæ, carina minuta.*

Trigonella Fœnum Græcum (*Common Fenu-Greek*).

The seeds and flour are used. Their taste is bitterish, and their smell fragrant. They are

farinaceous, mucilaginous, emollient, and lubricating in their qualities. They are used in dysentery, diarrhæa, and ophthalmia; externally, the flour is formed into cataplasms.

DCLXIV.

CLASS XVIII. POLYADELPHIA.

This class consists of such plants as bear hermaphrodite flowers furnished with many sets of stamina. The flowers have no particular character, and the orders are four.

DCLXV.

1. The 1st order is the pentandria, or such plants as have five stamina in each set.

DCLXVI.

Theobroma.

Cal. 3-phyllus, cor. 5-petals, ne-
tariis 5. flam. 5. antheris 3, pil-
til. 3.

Theobroma Cacao (*Chocolate Nut*).

The fruit, and concrete oil from it, are the parts used. In its quality it is oily, but with little tendency to rancidity. It is demulcent, lubricating, and nutrient. It is used in tabes, asthenia, and swelling of the anus. Its preparation, or fixed oil, is termed chocolate.

DCLXVII.

2. The 3^d order of this class is the icofandria, or plants having 12 stamina; for in the 2^d order, no medical articles occur.

DCLXVIII.

Citrus.

Cal. 5-dentatus, cor. 5-petala-stans.
 20 in cylindrum passim connata,
 pistill. 1. bacca loculis pulpa ves-
 sicula.

Citrus Medica (Lemon and Lime Tree).

The fruit, juice, and yellow rind, are all used. The taste of the fruit is acid, that of the rind, bitter and aromatic. The qualities of the juice are refrigerant and antiseptic; of the rind, stimulant, and stomachic. The juice is specific in scurvy, the rind is used in dyspepsia. Its preparations are the juice, volatile oil, expressed oil, confection, and citric acid.

DCLXIX.

Citrus Aurantium (Seville and China Orange Tree).

The recent fruit, the rind, the leaves, and flowers, are all used. The rind of the leaves and flowers has an aromatic bitter taste and fragrant smell. The juice displays an acid sweet, or bitterish sweet. The virtues of this rind are nervine, stimulant, and stomachic; the juice is refrigerant. The rind is employed in dyspepsia, intermittents, and menorrhagia; the leaves in chorea, epilepsy, convulsions, and hysteria. The rind is exhibited in powder to half a dram, the leaves to a dram and a half. Its preparations are a distilled water, a volatile oil of the flowers, a tincture, candy, syrup of the rind, and a volatile pressed oil, termed oil of Bergamotte.

DCLXX.

3. The last order of this class is the polyandria, comprehending such plants as have many stamina in each set; the medical articles of which are

DCLXXI.

Melaleuca.

Cal. 5-partitus, superus, cor. 5-petala, caps. semivestita calyce baccato.

Melaleuca Leucadendron (Cajeput Oil).

A volatile oil from the leaves is only used. Its smell is strongly fragrant and aromatic. Its qualities are stimulant, antispasmodic, carminative, emmenagogue, and destructive of insects. It is used internally in cardialgia and pyrosis, in flatulent colic, and in spasms and palsy; externally, in impotence, swelling of the anus, toothach, and lingual palsy. The internal dose is from 3 to 10 drops.

DCLXXII.

Hypericum.

Cal. 5 partitus inferus, cor. 5-petala, caps. locularis, stili 1, 3. f. 5.

Hypericum Perforatum (Perforated St. John's Wort).

The flowering tops of this plant are the parts used. They possess a strong heavy smell. Their qualities are resolvent and anthelmintic. Their infusion is exhibited in pulmonary consumption, Hemoptysis, hematuria, and Worms.

CLASSIFICATION.

DCLXXIII.

CLASS XIX. SYNGENESIA.

This class consists of such plants as have compound flowers; and the orders of this class are six.

DCLXXIV.

1. The first order is *polygamia æqualis*.—or such plants as, with compound flowers, have the florets all hermaphrodites; the medical articles of which are:

DCLXXV.

Tragopogon.

Recept. nudum, pap. plumos. stipitatus, cal. simplex.

Tragopogon Pratenſe (*Yellow Goat's Beard*).

The root, the part used, is lactescent and bitterish. It is exhibited in cough and strangury.

DCLXXVI.

Lactuca.

Recept. nudum, pappus pilosus, stipitatus, cal. imbricat. margine scarioso.

Lactuca Sativa (*Garden Lettuce*).

The plant and seed are both of domestic use, and their qualities are refrigerant.

DCLXXVII.

Lactuca Viroſa (*Strong ſcented Lettuce*).

The plant and juice are both used. They have an acrid bitter taste, and a disagreeable smell. Their virtue resides in an acrid milky juice. They are sedative and diuretic. They are employed in dropsy and jaundice. The dose of the inspissated juice, or extract, is from 1 to 4 drams.

DCLXXVIII.

Leontodon.

Recept. nudum, pap. plumos. stipitat. cal. imbricat. squamis laxis.

Leontodon Taraxacum (Common Dandelion).

The root of this perennial plant has its virtue residing in a bitter saline lactescent juice. It is diuretic and deobstruent. It is employed in jaundice and obstinate quartans. The proportion of the decoction is 2 ounces to 3 lb.

DCLXXIX.

Hieracium.

Recept. nudum, pappus pilosus, sessilis, cal. imbricat. ovarus.

Hieracium Pilosella (Mouse or Hawk-weed).

This perennial plant has a bitter taste, and is lactescent. Its qualities are astringent. It is employed in hernia, diarrhæa, itch, and herpes.

DCLXXX.

Cichorium.

Recept. sub paleaceum, pappus sub 5-dentatus, cal. calyculatus.

Cichorium Intybus (Wild Succory).

The root and plant are used. Their virtue is in a milky juice, intensely bitter. They are deobstruent, stomachic, and diuretic. The decoction is employed in jaundice, dyspepsia, and abdominal swelling.

DCLKKXI.

Cichorium Endivia (Common Endive).

Is a domestic vegetable, and in its quality ecceprotic.

DCLXXXII.

Arctium.

Calyx squamis apice incurvato-hemissis.

Arctium Lappa (Common and Woolly-Headed Burdock).

The root and seeds are both used. The root has a sweet and somewhat austere taste, with a nauseous smell. The seeds have a taste intensely bitter, discolouring the urine. The virtues of the root are diuretic and alterative; of the seeds, cathartic. The decoction is used in cutaneous diseases, syphilis, and gout. Its proportions are an ounce or two to 1 lb. of fluid.

DCLXXXIII.

Carduus.

Calyx squamis spinosis ventricosus, recept. pilosum.

Carduus Marianus (Milk Thistle).

The plant and seeds are used. The seeds are oily, the plant bitter. It is employed in cancer.

DCLXXXIV.

Onopordon.

Calyx squamis ventricosus spinosis, recept. favosum.

Onopordon Acanthum (Cotton Thistle).

The recent plant and expressed juice are used.

CLASSIFICATION.

309

They are reckoned, particularly the expressed juice, specific in cancer as an external application.

DCLXXXV.

Cinara.

Calyx squamis squarrosus canaliculatus spinosus.

Cinara Scolymus (Artichoke).

The leaves of this domestic plant are used in dropsy; and the dose of the juice is from 2 to 3 ounces.

DCLXXXVI.

Carlina.

Calyx radiatus, radiis coloratis.

Carlina Acaulis (Dwarf Carlina).

The root of this perennial plant has an acrid bitter aromatic taste, with a strong smell. It is stimulant, stomachic, and sudorific. It is employed in abdominal swellings, cutaneous diseases, and hysteria.

DCLXXXVII.

Carthamus.

Calyx squamis squarrosus foliaceis.

Carthamus Tinctorius (Blossomed Saffron).

The seeds and flowers are used. They are of a yellow colour, with a nauseous taste. Their qualities are cathartic and diuretic. They are employed in the cough of age, in moist asthma, and in jaundice.

CLASSIFICATION.

DCLXXXVIII.

Spilanthus.

Recept. nudum, pappus bidentatus,
cal. subæqualis.

Spilanthus Acmella (*Balm-Leaved Spilanthus*).

The plant and seed are the parts used. Their qualities are those of a bitter. They are diuretic and emmenagogue. They are employed in dropsy, ischury, calculus, and leucorrhæa.

DCLXXXIX.

Eupatorium.

Recept. nudum, pappus plumosus,
cal. imbricatus, pist. longissima.

Eupatorium Cannabinum (*Hemp Agrimony*).

The plant and root are both used. Their taste is strongly bitter, their smell acrid and penetrating. The root is diuretic, cathartic, and emetic. It is exhibited in cachexy, dropsy, and hydrocele.

DCXC.

Santolina.

Recept. paleaceum, pappus nullus,
cal. imbricatus, hemisphæricus.

Santolina Chamæcypris (*Lavender Cotton*).

The leaves and plant have a pleasing aromatic bitter taste, with a nidorous smell. They are tonic, carminative, and anthelmintic. They are exhibited in leucorrhæa and worms.

DCXCI.

2. The second order of this class comprehends such plants as have the florets of the disk herma-

phrodite, and those of the radius female; the medical articles of which are :

DCXCII.

Tanacetum.

Recept. nudum, papp. submargin.
nullus, cor. radii 3-fidæ.

Tanacetum Vulgare (Common Tanfy).

The plant, flowers, and seeds, are all used. It possesses a bitter aromatic taste, with a nidorous disagreeable smell. Its virtue resides in a volatile oil, united with a bitter principle. It is stimulant and carminative. The extract is purely bitter and stomachic. The seeds are anthelmintic and sudorific. It is employed in extract as well as in a vinous and watery infusion, in the proportion of an ounce to one lb. The seeds, in powder, are given to 1 scruple, and 2 drams, or 3, are the proportion to 1 lb. of water in infusion. The diseases for which it is given are, dyspepsia, intermittents, chlorosis, leucophlegmatia, dropsy, and hysteria.

DCXCIII.

Tanacetum Balsamita (Cort-Mary).

This species differs little from the former in taste, smell, or qualities.

DCXCIV.

Artemisia.

Recept. subnudum. papp. nullus,
cor. radii nulli.

Artemisia Abrotanum (Common Southernwood).

The plant and tops are used. They have an

aromatic bitterish taste, with a nidorous smell. They are stimulant, stomachic, emmenagogue, and anthelminthic. They are employed in dyspepsia, amenorrhæa, and worms; externally, in the form of bath and fomentation; internally, in decoction and infusion. The proportions of the latter are, ʒ ounce to ʒ lb. of fluid.

DCXCV.

Artemisia Absinthium (Common Wormwood).

The plant and tops are used, which have a strong purely bitter taste, with a nidorous smell. Their virtue resides in a volatile oil and bitter extract. They are stomachic, anthelminthic, antiseptic, and resolvent. They are employed in dyspepsia, intermittents, leucophlegmasia, amenorrhæa, jaundice, tinea, gangrene, and worms. Their preparations are a vinous and watery infusion, a tincture, extract, volatile oil, and conserve. Externally, they are used in the form of fomentation and cataplasm.

DCXCVI.

Artemisia Campestris (Field Southernwood).

This species resembles the abrotanum.

DCXCVII.

Artemisia Dracunculus; *Artemisia Glacialis* (Silky Wormwood); *Artemisia Maritima* (Sea Wormwood); *Artemisia Pontica* (Roman Wormwood); *Artemisia Rupestris* (Creeping Wormwood). All these species

differ little from the *abrotanum absinthium*, either in taste, smell, or qualities.

DCXCVIII.

Artemisia Santonica (*Tartarian Southernwood*).

The tops and branches, with the seeds, are used. Their taste is acrid and bitter, and their virtue resides in a volatile oil. They are stomachic and anthelmintic, and employed in worms and anorexia. The dose is from 10 grains to 1 dram in powder; and from 2 to 3 drams is the proportion for the infusion to 1 lb. of fluid.

DCXCIX.

Artemisia Vulgaris (*Mugwort*).

The plant and tops are here also used. They have a bitterish taste, and aromatic smell. They are stimulant, stomachic, and emmenagogue. They are employed in tertian fever.

DCC.

Erigeron.

Recept. nudum, papp. pilosus, cor.
rad. i capillares.

Erigeron Acre (*Blue Erigeron*).

This plant has an acrid taste like mustard, and is antiscorbutic.

DCCI.

Tussilago (*Coltsfoot*).

Recept. nudum, papp. pilosus, cal.
squamis submembranaceis.

Tussilago Farfara (*Common Coltsfoot*).

Every part of this plant is used, which possesses

a bitterish mucilaginous taste, and is expectorant. The expressed juice is employed in scrophula, and the same and the decoction, in the proportion of 1 ounce to 1 lb. of fluid, is exhibited in pectoral diseases and consumption.

DCCII.

Tussilago Petasites (*Great Coltsfoot*).

The root has a bitter and slightly acrid taste. It is expectorant and diuretic, and employed in pectoral diseases in decoction.

DCCIII.

Senecio.

Recept. nudum, papp. pilosus, cal.
squamis apice sphacelatis,

Senecio Vulgaris (*Common Groundsel*).

This plant has a saltish taste. In its qualities it is anthelminthic, but chiefly used, externally, in the form of cataplasm.

DCCIV.

Solidago.

Recept. nudum, papp. pilosus, cor.
radii subsepi remoti.

Solidago Virga Aurea (*Common Golden Rod*).

The plant is used, which has a bitter taste. In its qualities it is diuretic, and employed in ulceration and calculus.

DCCV.

Inula.

Recept. nudum, papp. pilosus, antheræ basi bifidæ.

Inula Helenium (Elecampane).

The root is the part used. It has an aromatic mucilaginous bitter taste, and a fragrant smell. Its virtue resides in a volatile oil. It is stimulant, expectorant, stomachic, alterative, and anthelmintic. It is employed in dyspepsia, cachexy, cough, moist asthma, abdominal swellings, itch, and mucous piles. Its preparations are, a tincture, candy, and extract.

DCCVI.

Inula Dysenterica (Meadow Inula).

This plant is slightly acrid to the taste, with little smell. It is employed in dysentery and itch.

DCCVII.

Arnica.

Recept. nudum, papp. pilosus, stamina radii castrata.

Arnica Montana (German Leopard's Bone).

The flowers, plant, and root, are all used. The taste is acrid, aromatic, and bitterish, with a strong smell. The qualities are, stimulant, diuretic, emmenagogue, antiseptic, and resolvent. An infusion of the flowers is used in the proportion of 1 dram to 4 to 1 lb. of fluid, in asthenia, chronic rheumatism, amaurosis, palsy, epilepsy, amenorrhæa, and paralytic ischuria. The root, in pow-

der, in 5 or 10 grains, is used in diarrhæa, dysentery, quartan fever, gangrene, and synochus. Externally, it is applied in malignant ulcers, and sphacelus.

DCCVIII.

Doronicum.

Recept. nudum, papp. pilosus, pappus radii nullus.

Doronicum Latifolium (Great Leopard's Bane).

The root is used, which is sweet and aromatic. In its qualities it resembles the arnica montana.

DCCIX.

Matricaria.

Recept. nudum, papp. nullus, cal. squamis imbricatus acutis.

Matricaria Chamomilla (Corn Feverfew).

The flowers of this annual plant are used. They are bitter, with a fragrant unpleasing smell. Their virtue resides in a volatile oil, and bitter extractive principle. They are gently stimulant, and antispasmodic. They are employed in dyspepsia, in frequent vomiting and cardialgia, in dysentery, spasmodic colic, intermittent fevers, hysteria, and dysury, in the form of bath, glyster, infusion, and powder. The dose of the powder is from half a dram to a dram; the infusion is made in the proportion of two or three ounces to one lb. of fluid. The preparations are a water, volatile oil, and syrup.

DCCX.

Matricaria Parthenium (Common Feverfew).

The plant and flowers are used, which have a bitter taste, with an offensive smell. Their qualities are antispasmodic, stomachic, emmenagogue, and repellent of milk. They are exhibited in colic, hysteria, and dyspepsia; externally, they are employed in the form of bath, glyster, and cataplasm.

DCCXI.

Anthemis.

Recept. paleaceum, papp. nullus,
cal. hemisphaericus.

Anthemis Catula (Stinking Chamomile).

The plant and flowers are used. They have a bitter taste and foetid smell. They are antispasmodic and stomachic. They are employed in hysteria and spasmodic asthma.

DCCXII.

Anthemis Nobilis (Common Chamomile).

The flowers are used, which have a bitter taste, with a sweetish smell. Their virtue resides in a volatile oil and bitter extract. They are antispasmodic, carminative, and stomachic. They are given in hysteria, spasmodic colic, flatulence, and intermittents.

DCCXIII.

Anthemis Pyrethrum (Spanish Chamomile).

The root of this plant has an acrid and most penetrating burning taste. It is sialagogue and

errhine, and chewed in rheumatic toothach, in lingual palsy, and swellings of the salivary glands.

DCCXIV.

Achillea.

Recept. ~~officinæ~~, papp. nullus,
cal. oblongus, radius sub. 5-florus.

Achillea Ageratum (Sweet Milfoil).

The plant is used, which has a bitterish aromatic taste, with a sweet smelling odor. It is stomachic, and used in dyspepsia.

DCCXV.

Achillea Atrota.

This species has a bitter taste and aromatic smell. It is stomachic, and used in dyspepsia.

DCCXVI.

Achillea Miliifolium (Yarrow).

The leaves and flowering tops are the parts used. They have a bitter and slight aromatic taste. Their virtue resides in a volatile oil and bitter extract. It is stomachic and gently stimulant. It is employed in dyspepsia, flatulent cholic, hemoptysis, piles, hysteria, and spasmodic pains in children.

DCCXVII.

Achillea Ptarmica (Common Sneezewort).

The root, plant, and flowers, are all used. The taste of the root is acrid and pungent; the smell of the flowers, nauseous. Their virtue resides in a resinous principle. They are errhine and sialo-

gogue, and employed in place of the pyrethrum in lingual palsy and toothach.

DCCXVIII.

Sigesbeckia.

Recept. paleaceum, papp. nullus
radius dimidiatus.

Sigesbeckia Orientalis.

This plant has a bitter taste, and a musky smell. It is exhibited in strangury, calculus, gout, and leucorrhæa.

DCCXIX.

3. The third order of this class comprehends such plants as have the florets of the disk hermaphrodite, and those of the radius neuter. The medical articles of this order are :

DCCXX.

Centaurea.

Recept. setosum, papp. pilosus, radius corollæ tubulosus.

Centaurea Behen.

The root is the part used, which has an acrid taste and an odorous smell.

DCCXXI.

Centaurea Benedicta (Blessed Thistle).

The leaves, plant, and seed, are all used. The taste of the plant is a pure strong bitter. The seeds are sweet and mucilaginous. The virtues of the plant are stomachic, antacid, and slightly emetic. It is given in dyspepsia, in intermittents, leucophlegmasia, jaundice, and abdominal swell-

ings; externally, in ecchymoma. Its forms are an extract, infusion, and decoction.

DCCXXII.

Centaurea Calcitrapa (Common Star Centaury).

The root is the part used. It has a bitter taste, is stomachic, and employed in intermittents and dyspepsia.

DCCXXIII.

Centaurea Cynamus (Blue Bottle).

This species is employed by chemists as a test.

DCCXXIV.

4. The fourth order of this class comprehends such plants as have the florets of the disk male, and those of the radius female. Of this order there is only one medical article:

DCCXXV.

Calendula.

Recept. nudum, papp. nullus, sem.
membranacea.

Calendula Officinalis (Common Marigold).

The leaves and flowers are used. They have a bitterish taste, and are in no way remarkable for their qualities, though given in eruptive diseases.

DCCXXVI.

5. The last order of this class that includes any medical articles is the monogynia, or such plants as have simple flowers.

CLASSIFICATION.

313

DCCXXVII.

Lobelia.

Cal. 5-dentatus, cor. 1-petala irregularis, caps. infera, 2-locularis.

Lobelia Siphyllitica (Blue Cardinal Flower).

The root is the part used. It is lactescent, acrid, and nauseous. Its virtues are emetic and drastically cathartic. It is used in lues in the form of decoction, the proportion being half an ounce to 12 ounces of water.

DCCXXVIII.

Lobelia Longiflora.

Lobelia Tupa.

The root of these species is only more acrid than the former, but agrees in its qualities.

DCCXXIX.

Viola.

Cal. 5-phyllus, cor. 5-petala irregularis, caps. supera, 3-valvis.

Viola Canina (Dog's Violet).

The root of this plant is emetic and cathartic. Its dose is from a scruple to half a dram.

DCCXXX.

Viola Ipecacubana (White Ipecacuanha).

This possesses an emetic quality, but is less certain in its operation than the psycotria emetica.

DCCXXXI.

Viola Odorata (Sweet Violet).

The recent flowers, root, and seeds, are used.

The root and seeds are emetic and diuretic. The flowers are only used in preparing a syrup. The dose of the root and seeds, in powder, is half a dram; in decoction, the proportion is two or three drams to one pound of fluid.

DCCXXXII.

Viola Tricolor (Three-coloured Violet).

The plant is used. It is diuretic and cathartic, and is employed in the crusta lactea and cutaneous diseases of infants. Its forms are the powder, in a dose of 8 to 30 grains; and the decoction, in the proportion of two drams to one pound.

DCCXXXIII.

CLASS XX. GYNANDRIA.

This class consists of such plants as have the stamina growing either upon the stile itself, or upon a receptacle that stretches out into the form of a stile, and supports both the stamina and pistillum. The orders of this class are nine, four of which only include medical articles.

DCCXXXIV.

" 1. Of the first order, Diandria, or plants having two stamina, the following occur:

DCCXXXV.

• • *Orchis.*

Nectarium corniculatum.

<i>Orchis Masculæ</i>	} <i>Male and Female Orchis,</i>	}
<i>Orchis Militaris</i>		
<i>Orchis Morio</i>		
	or <i>Salep.</i>	

The root is the part used. Its quality is muc-

laginous. It is nutrient, obtunding, and aphrodisiac. It is used in impotence, dysentery, consumption, and internal ulcers. Its proportions are two drams to one pound of fluid.

DCCXXXVI.

Epidendrum.

Nectarium turbinatum.

Epidendrum Vanilla (Vanilla).

The pod of this parasitical shrub is the part used. Its taste is grateful and aromatic, with a musky smell. Its virtues are stimulant, calefacient, nervine, and aphrodisiac. It is an ingredient in the preparation of chocolate.

DCCXXXVII.

2. Of the order of Hexandria, or such plants as have six stamina, there is:

DCCXXXVIII.

Aristolochia.

6-gyna, cal. nullus, cor. 1-petala,
capl. 6-locularis.

Aristolochia Clematitis (Upright Birthwort).

The root is the part used. It has an acrid bitter taste, and a strong smell. It is stimulant, stomachic, emmenagogue, and resolvent. It is employed in amenorrhœa, chlorosis, cachexy, fistula, and cancer.

DCCXXXIX.

Aristolochia Longa et Rotunda (Long and Round Birthwort).

These species are the same as the former.

DCCXL.

Aristolochia Serpentaria (*Virginian Snakeroot*).

The root is the part used. Its taste is aromatic, bitterish, and pungent, with a smell like valerian. It is stimulant and cordial. It is employed in typhus, intermittents, sphachelus, chlorosis, amenorrhæa, and venomous bites. Its forms are the powder, from 10 to 30 grains; the infusion, in the proportion of half a dram to 3 ounces for 1 lb. of fluid.

DCCXLI.

Aristolochia Trilobata (*Three-lobed Snakeroot*).

This species is the same as the former.

DCCXLII.

3. Of the order of Dodecandria, or plants that have 12 stamina, the only article is:

DCCXLIII.

Cytinus.

1-gynus, cal. 4-fidus, cor. o. bacca
8-locularis.

Cytinus Hypocystis.

The inspissated juice of the berries is used. It has an acid austere styptic taste, and is soluble in alcohol. Its qualities are astringent, and it is used in profluvia.

DCCXLIV.

4. The only articles of the next order, Polyandria, or such plants as have many stamina, are:

DCCXLV.

Arum.

Spatha, cal. nullus, cor. nulla, stam.
supra pistilla.

Arum Maculatum (Waterobin).

The recent root is the part used. It possesses a burning taste. Its virtue resides in an acrid volatile principle; but, when dried, it becomes farinaceous, and has little or no acrimony. Its qualities are stimulant, sudorific, expectorant, and cosmetic. When fresh, it is corrosive and vesicatory. It is employed in dyspepsia, headach, intermittents, moist asthma, cachexy, and chronic rheumatism.

DCCXLVI.

Zostera.

Folium, cal. nullus, cor. nulla, sem.
alterna, nuda.

Zostera Marina.

The fibres of the root are the part used, which are burnt to ashes, and exhibited in scrofula and bronchocele.

DCCXLVII.

CLASS XXI. MONOECIA.

This class consists of such plants as have no hermaphrodite flowers, but bear both male and female flowers in the same plant. The orders of this class are eleven.

DCCXLVIII.

1. The first is Monandria, or such as have their male flowers furnished with one stamen.

DCCXLIX.

Cynomorium.

Mal. cal. ament. cor. nulla, Foem.
cal. ament. cor. o. fil. 1. sem.
1, subrot.

Cynomorium Coccinium.

This parasitical plant has a bitterish styptic taste, with a black colour. In its quality it is astringent, and employed in hemorrhages, dysentery in its last stage, and ulcers. Its form is the powder in a dose of 20 grains to a dram, and also in decoction. Externally, it forms an application to phagedenic ulcers.

DCCL.

2. The next order, in which any medical articles occur, is the Triandria, or such plants as have their male-flowers furnished with three stamina.

DCCLI.

Carex.

Mal. ament. 1-florum, cor. nulla.
Foem. ament. 1-florum, cor. 1.
fil. 1. sem. 1, tunicatum,

Carex Arenaria (Sea Carex).

The root is the part used, which possesses a sweetish teribinthinate smell. Its qualities are sudorific and diuretic. It is employed in cutaneous diseases and siphylis.

DCCLII.

Phyllanthus.

Maf. cal. 6-partitus, cor nulla.

Fœm. cal. 6-partitus, cor. o.

fil. 3. caps. 3-coeca.

Phyllanthus Emblica (*Shrubby Phyllanthus*).

The dried fruit and nut are the parts used. The taste is acid and austere, and somewhat acrid. Its qualities are astringent. It is employed in scurvy and dysentery.

DCCLIII.

3. Of the order of Tetrandria, or such plants as have their male flowers furnished with four stamina, the articles are :

DCCLIV.

Betula.

Maf. ament. 3-florum, cor. 4-partita.

Fœm. ament. 2-florum, cor. o.

fil. 2. sem. 1-ovatum.

Betula Alba (*Common Birch Tree*).

The leaves, outer bark, and juice, are used. The leaves are employed in erisipelas; the juice, in cutaneous diseases, scurvy, and worms. Its preparation is the black oil of the bark.

DCCLV.

Buxus.

Maf. cal. 3-phyllus, cor. 2-petala,

Fœm. cal. 4-phyllus, cor. 3 pet.

stigm. 3. caps. 3-locularis.

Buxus Sempervirens (*Common Box Tree*).

The wood and leaves are used. Their taste is

bitter, with a rank foetid smell. The wood is sudorific and alterative; the leaves cathartic. The decoction is used in epilepsy and syphilis; the oil in baldness.

DCCLVI.

Urtica.

Maf. cal. 4-phyllus, cor. nulla,
nect. cyathiforme. Fœm. cal. 2-
valvis, cor. o. stig. villos. sem-
i. ovatum.

Urtica Dioica (Common Nettle).

The root, plant, and juice, are all used. The juice is alterative in doses of one or two ounces, and employed in hemoptysis, piles, phthisis, and jaundice. The stinging with nettles, or its external use, takes place in palsy and chronic weakness.

DCCLVII.

Urtica Pilulifera (Roman Nettle).

The seeds are chiefly used, which are oily, and have a diuretic quality. They are employed in measles, nephritis, and hemorrhage.

DCCLVIII.

Urtica Urens (Lesser Nettle).

The seeds are used in decoction from their anthelmintic quality.

DCCLIX.

Morus.

Maf. cal. 4-partitus, cor. nulla.

Fœm. cal. 4-phyllus, cor. 0.

fil. 2. sem. 1. baccatum.

Morus Nigra (Common Mulberry Tree).

- The fruit, leaves, and bark, are all used. The fruit is sweet and slightly acid, the leaves are styptic. The fruit is used in fevers, as refrigerant. The bark is employed in tenia.

DCCLX.

- 4. Of the order of Pentandria, or such plants as have their male flowers furnished with five stamina, there is only,

DCCLXI.

Xanthium.

Maf. cal. comm. polyph cor. 5-

si 2, filam. connata, ~~petal.~~ cal.

nullus, cor. 0. fil. 2 ~~sepa~~ 2

locul.

Xanthium Strumarium (Lesser Burdock).

- The recent leaves and seeds are used. Their taste is bitter and slightly acrid. They are employed in sciofula, bronchocele, herpes, and erysipelas. The dose of the seeds is half an ounce.

DCCLXII.

- 5. Of the next order, Polyandria, or such plants whose male flowers have more than seven stamina, the articles are:

CLASSIFICATION.

DCCLXIII.

Poterium.

Maf. cal 4-phyllus, cor. 4-partita,
 Stam. 32 circiter. Fem. cal.
 4-phyllus, cor. 4-petala, pist. 2.
 sem. 2-obducta.

Poterium Sanguisorbum (Common Burnet).

The plant is used, having a styptic taste, and
 smell slightly fragrant. Its virtues are astringent.

DCCLXIV.

Quercus.

Maf. cal. 5-fidus, cor. nulla, stam.
 10 circiter. Fem. cal. integer,
 cor. o. stil. 5 nux coriacea.

Quercus Robur (Common Oak Tree).

The fruit, bark, leaves, and cup of the fruit, are
 all used. The taste is styptic. The virtues are
 tonic, astringent, and obstitating. Internally, it
 is used in decoction and powder, conjoined with
 bitters, in intermittents and passive discharges.
 Externally, it is employed in the form of fomenta-
 tion, injection, and gargle, in prolapsus of the
 vagina and rectum, in relaxation of uvula, in
 piles, leucorrhæa, and gonorrhæa. The propor-
 tion, in decoction, is one ounce to the lb. of fluid;
 and in powder, the dose is to the extent of half a
 dram. Its preparation is an ointment for piles, in
 the proportion of 1 scruple to 3 ounces of axunge.

DCCLXV.

Quercus Cerris (Turkey Oak Tree).

The galls are the part used, or excrescences

CLASSIFICATION.

323

from it. They are styptic, and of course tonic and astringent. They are used in the form of powder, decoction, and ointment, in swelling of the anus, prolapsus, and gonorrhœa.

DCCLXVI.

Quercus Suber (Cork Tree).

The bark is the part used. It is astringent, and when burnt and mixed with oil, it is an application in piles.

DCCLXVII.

Juglans.

Mas. ament. imbricat. cor. 6-partita, flam. 18 circiter. Fem. cal. 4-fidus, cor. 4-petala, stil. 2. drupâ coriacea.

Juglans Regia (Walnut Tree).

The rind of the green fruit, and the fruit and shell, are all used. The rind has a bitter styptic taste, with a strong smell. It is tonic, astringent, and anthelminthic. The decoction is in the proportion of 1 lb. to 20 of fluid, and that boiled to 10. It is employed in obstinate lues, leprosy, and worms. An extract is also prepared.

DCCLXVIII.

Corylus.

Mas. ament. imbricat. cor nulla, flam. 2. Fem. cal. 2-phyllus, cor. o. stil. 2. nux nuda.

Corylus Avellana (Hazel Nut).

The fixed oil from it turns rancescient with dissi-

culty, and may be therefore impregnated with perfumes.

DCCLXIX.

Liquidambar.

Maf. cal. 4-phyllus, cor. nulla,
~~stam.~~ plurima. *Fœm.* cal. 4-
 phyllus, cor. o. stil. 2. caps. po-
 lysperma.

Liquidambar Styraciflua (Sweet Gum).

This balsam possesses an acrid aromatic taste, with a fragrant smell. It is stimulant and calefacient, and used externally in palsy and itch.

DCCLXX.

6. Of the next order of this class, the Monodelphia, or such plants as have their male flowers furnished with one set of united stamina, the medical articles are :

DCCLXXI.

Pinus.

Maf. cal. 4-phyllus, cor. nulla,
 stam. plurima. *Fœm.* ament.
 strobilac. cor. 2. pist. 2. nuces 2,
 alatae.

Pinus Abies (Norway Spruce).

The tops, and concrete gum or resin, are used. The tops are acescent and resinous. The resin has an agreeable bitterish taste, and fragrant smell. They are stimulant, diuretic, and diaphoretic. The decoction of the tops is employed in cutaneous diseases. The resin, melted with axunge, is used externally in leprosy. The melted resin, when

strained, forms burgundy pitch; and, when boiled with vinegar, colophonium.

DCCLXXII.

Pinus Balsamica.

Pinus Canadensis (*Canada Balsam*).

This liquid resin has a taste slightly aromatic, stimulant, pungent, and bitterish, with a fragrant pleasing smell. It is stimulant, diuretic, and diaphoretic. It is exhibited in gonorrhœa, cutaneous diseases, particularly herpes, and cold affections of the viscera. The dose is from 40 to 60 drops.

DCCLXXIII.

Pinus Cembra (*Siberian Stone Pine Tree*).

The liquid resin is here also used. It is diuretic and stimulant, and employed in gonorrhœa and ulcers.

DCCLXXIV.

Pinus Larix (*White Larch Tree*).

The resin is here diuretic, stimulant, and gives the urine a violet smell. It is applied to the same maladies as the former species.

DCCLXXV.

Pinus Munchos.

* A distilled oil is the preparation from this species.

DCCLXXVI.

Pinus Pinea (*Stone Pine Tree*).

The nuts are here used, which are sweet and

oily. Their qualities are nutritive. They are given in consumption and stranguy.

DCCLXXVII.

Pinus Picea (*Silver Fir Tree*).

This species produces white resin.

DCCLXXVIII.

Pinus Sylvestris (*Scot's Fir Tree*).

The tops and liquid resin are used. Their qualities are resinous, acrid, and bitter. They are stimulant, diuretic, diaphoretic, and depiatory. Internally, they are exhibited in chronic rheumatism, gonorrhœa, moist asthma, scurvy, cutaneous diseases, and herpes. Externally, they are employed, in glyster, in costiveness, and, in ointment or plaster, in atonic ulcers. Internally, from 5 to 10 grains of the resin is given, beat up with sugar or yolk of an egg. The decoction of the tops is in the proportion of half an ounce to 2 lbs. of fluid; in glyster, half an ounce of the resin is beat up with the yolk of an egg. The preparations from the tree are white resin, or colophonium, black resin, or tar, volatile oil of turpentine, and tar water.

DCCLXXIX.

Thuja.

Mas. amentum, cor. nulla, anther 4. Fem. ament. strobilac. cor. 0 pist. 2. nux cincta ala.

Thuja Occidentalis (*American Arbor Vita Tree*).

The leaves and wood are used. Their qualities

are resinous, and hence expectorant and sudorific. The decoction is given in dropsy, rheumatism, cough, and intermittents.

DCCLXXX.

Croton.

Mas. cal. 5-phyllus, cor. 5 petals.

flam. 15. Fem. cal. 5-phyllus,

cor. 0. fil. 3. caps. 3-cocca.

Croton Cascarilla (Cascarilla).

The bark is the part used, which has a bitter and slightly acrid taste, with a fragrant smell like musk. Its virtue resides in a volatile oil, and bitter extract. It is tonic and stimulant, and employed in dyspepsia, diarrhœa, intermittent and bilious fevers. The dose of the powder is from 10 to 30 grains; and the proportion of the infusion is a dram to the lb. The dose of the extract is a dram.

DCCLXXXI.

Croton Lactiferum (Gum Lac).

This is a resinous substance, formed by insects upon the tree. It is red coloured and styptic; it is therefore astringent, and it is used in laxity of the gums in the form of tincture.

CLASSIFICATION.

DCCLXXXII.

Jatropha.

Mal. cal. nullus, cor. 5-fida, Stam.
10. Fœm. cal nullus, cor. 5-
petala, stil 3. caps. 3-coeca.

Jatropha Elastica (*Calabouc*).

This elastic resin is used for making catheters, bougies, and pessaries, &c.

DCCLXXXIII.

Jatropha Manihot (*Cassava*).

The root is the part used, which, when dried and freed of the poisonous juice, is eatable and nutritive. The juice is poisonous, acrid, and burning.

DCCLXXXIV.

Ricinus.

Mal. cal. 5-partitus, cor. nulla,
stam. multa. Fœm. cal. 3-par-
titus, cor o stil. 3 caps 3-coeca.

Ricinus Communis (*Common Palma Christi*).

The expressed oil of the seeds is used, which is gently laxative, cathartic, and anthelminthic. It is employed in costiveness, dysentery, ileas, nephritis, Devonshire colic, and worms. The dose is from 1 to 2 ounces in a proper vehicle.

DCCLXXXV.

7. Of the next order of this class, Syngenesia, or such plants as have their male flowers furnished with stamina of which the antheræ are united, the medical articles are :

DCCLXXXVI.

Momordica.

Maf. cal. 5-fidus, cor. 5-fida, filam. 3. Fœm. cal. 5-fidus, cor. 5-fida, stil. 3-fidus, pom. elasticum

Momordica Elaterium (Squirting Cucumber).

The root, recent fruit, and resinous extract, are all used. The taste is intensely bitter, acrid, and nauseous. The qualities are emetic, drastic, cathartic, emmenagogue, and diuretic. It is employed in dropsy, costiveness, amenorrhœa, and scrofula. The dose of the root is 15 to 30 grains; and of the extract, from 1 to 4 grains.

DCCLXXXVII.

Cucumis.

Maf. cal. 5-dentatus, cor. 5-fida, filam 3. Fœm. cal. 5-dentatus, cor. 5-fida, stil. 3-fida, pomum, sem. argutis.

Cucumis Colocynthis (Colocynth or Bitter Cucumber).

The fruit and pulp are used. They have a very bitter nauseous taste and smell. Their virtues are diuretic, deobstruent, drastically cathartic, emmenagogue, and anthelmintic. They are employed in dropsy, costiveness, and epilepsy. The dose is $\frac{1}{2}$ of a grain, 30 grains of the pulp boiled in half a pound of fluid, forms a glyster. The antidote of this medicine is camphor.

CLASSIFICATION.

DCCLXXXVIII.

Colocynthis Melo (Melen).

The seeds are oily and succulent. Their qualities are refrigerating. In the form of emulsion they are given in fevers and strangury.

DCCLXXXIX.

Colocynthis Sativus (Common Cucumber).

This species resembles the former.

DCCXC.

Cucurbita.

Maf. cal. 5-dentatus, cor. 5-fida, filam. 3. Fœm. cal. 5-dentatus, cor. 5-fida, stil. 3-fida, pomum, sem marginatis.

Cucurbita Lagenaria
Cucurbita Pipa
Cucurbita Citrullus } *Water Melon, or Gourd.* }

Its qualities resembles those of the former articles.

DCCXCI.

Brionia.

Maf. cal. 5-dentatus, cor. 5-partita, filam. 3 Fœm. cal. 5-dentatus, cor. 5-petala, bacca.

Brionia Alba (White Briony).

The recent root and inspissated juice, are the parts used. Their taste is acrid and intensely bitter. Their smell is nauseous. Their virtue resides in an acrid volatile principle. They are drastically cathartic, diuretic, anthelminthic, and emmenagogue; externally, rubefacient and resol-

vent. They are given in dropsy, asthma, mania, epilepsy, and chronic rheumatism. The dose of the powder is half a scruple; of the extract, 2 drams to half an ounce. It is also used in decoction, Externally, it is applied in cataplasm, in oedema, lupia, and ecchymoma.

DCCXCII.

CLASS XXII. DIOECIA.

This class consists of such plants as have no hermaphrodite flowers, but bear male and female flowers in distinct plants. It comprehends 13 orders.

DCCXCIII.

1. The first of the orders in which any medical article occurs, is the Diandria, or such plants as have their male flowers furnished with two stamina.

DCCXCIV.

Salix.

Mas. ament. squama, cor. nulla,
stam. 2, raro 5. Fem. ament.
squama, cor. 0. stig. 2. caps.
2-valvis, fem. pap.

Salix Alba (*White Willow*).

Salix Caprea (*Black Willow*).

Salix Fragilis (*Crock Willow*).

Salix Pentandra (*Sweet Willow*).

Salix Vitulina (*Yellow Willow*).

The rind of the branches is the part used. The taste is bitter and styptic. Its qualities are tonic,

astringent, and stomachic. It is employed as a substitute for the bark in intermittents, and other diseases in which the bark is used. The dose of the powder is from 20 grains to one scruple; and the proportion of the decoction is half an ounce to one lb. of fluid.

DCCXCV.

2. The next order, Tetrandria, comprehends such plants as have their male flowers furnished with 4 stamina.

DCCXCVI.

Viscum.

Maf. cal. 4-partitus, cor. nulla.

Fœm. cal. 4-phyllus, cor. o.

stigm. obtus. bacca 1 sperma, infœra.

Viscum Album (White Mistletoe).

The woody branches and leaves are the parts used. When recent, they have a nauseous smell. When dried, they are mucilaginous. They are lubricating and obtunding. They are employed in epilepsy, chorea, convulsion, and dysentery. The dose of the powder is half a dram.

DCCXCVII.

Myrica.

Maf. ament. squama, cor nulla.

Fœm. ament. squama, cor. o.

fil. 2. bacca 1-sperma.

Myrica Gale (Sweet Gale Willow).

The leaves are the part used. They give a yellow colour, have a bitter taste, and inodorous

finell. They are narcotic, and used against itch and vermin.

DCCXCVIII.

3. The next order of this class is Pentandria, or such plants as have their male flowers furnished with five stamina.

DCCXCIX.

Pistachia.

Maf. cal. 5-fidus, sor. nulla. Fem.
cal. 3-fidus, cor. o. stil. 3. drupa
secca.

Pistachia Vera (Pistachio Nut).

The nuts, the part used, are oily, and in their qualities nutritive.

DCCC.

Pistachia Terebenthinus (Common Turpentine Tree).

The liquid resin is the part used, which has a grateful bitter, and slightly acrid taste, giving the urine a violet smell. In its qualities it is stimulant, diuretic, eccoprotic, and resolvent. It is employed in cough, consumption, ulcers, and gonorrhoea.

DCCCI.

Pistachia Lertifus (Common Mastic Tree).

The concrete resin is used, which is in quality resinous and aromatic. It is used as a masticatory, and for fumigation.

CLASSIFICATION.

DCCCII.

Cannabis.

Maf. cal. 5-partitus, cor. nulla.

Fœm. cal. 1-phyllus, cor. o. fil.

2. nux.

Cannabis Sativa (Common Hemp).

The seed is used, which has a rank smell. Its virtue resides in an oily and mucilaginous principle. It is obtunding and sedative, and employed in gonorrhœa, strangury, and catarrhal cough, in the form of infusion or emulsion, the proportions being half an ounce to 4 lb.

DCCCIII.

Humulus.

Maf. cal. 5-phyllus, cor. nulla.

Fœm. cal. 1-phyllus, cor. o.

fil. 2. sem. calyce alatum.

Humulus Lupulus (Hops).

The stroboli are the parts used. Their taste is bitter, with a grateful aromatic nidorous smell. They are narcotic and stomachic, and employed in luxations and baldness.

DCCCIV.

4. Of the order of Hexandria, or such plants as have their male flowers furnished with 6 stamens, the following medical articles occur:

DCCCV.

Smilax.

Mal. cal. 6-phyllus, cor. nulla,

Fem. cal. 6 phyllus, cor. o.

fil. 3 bacca supera, 3-loc.

Smilax Sarsaparilla (Sarsaparilla).

The root is the part used. Its taste is mucilaginous and bitterish. Its qualities are diuretic, diaphoretic, and alterative. They are employed in lues, cachexy, and gout. The dose of the powder is from 1 scruple to 2; and the decoction is in the proportion of 3 drams to 2 lbs.

DCCCVI.

Smilax China (China).

The root is used, which is mucilaginous to the taste, and without smell. It is employed in lues and gout. The proportion of the decoction is one ounce to a lb.

DCCCVII.

5. Of the order, Octandria, or such plants as have their male flowers furnished with 8 stamina, the articles are:

DCCCVIII.

Populus.

Mal. ament. lacerum, cor. nulla,

nect. ovat. Stam 8-16. Fem.

ament. lacerum, cor. o. stig.

4-fid. caps. 2-valvis, sem. papposa.

Populus Nigra (Black Poplar Tree).

The gems are the part used. They are obtund-

ing, emollient, and soporific. They are employed in diarrhœa and burns.

DCCCIX.

Populus Balsamifera (*Tamâbac Poplar Tree*).

The gum is the part used, which has a musky smell, and is used in vomiting and hysteria.

DCCCX.

Rhodiola.

Maf. cal. 4-partitus, cor. 4-partitus.

Fœm. cal. 4-partitus, cor. o. pist.

4. caps. 4 polyspermæ.

Rhodiola Rosea (*Share-root*).

The root has a fragrant rosy smell. It is red, and styptic, and employed in leucorrhœa and headach.

DCCCXI.

6. Of the order of Enneandria, or such plants whose male flowers are furnished with 9 stamina, the only article is :

DCCCXII.

Mercurialis.

Maf. cal. 3-phyllus, cor. nulla,

stam. 9-12. Fœm. cal. 3-phyllus,

cor. o. stil. 2. caps. 2-

cocca.

Mercurialis Annuâ (*Mercurialis*).

This plant is cathartic, hipnotic, repellent, and cosmetic. It is used in syphilis, and in decoction for glysters.

DCCCXIII.

7. Of the order of Dodecandria, or plants

whose male flowers are furnished with 12 stamina, the only article that occurs is :

DCCCXIV.

Menispermum.

Maf. cal. 2 phyllus, cor. 12-petala. Fœm cal. 6-phyllus, cor. 6-petala, bacca 3-cocca.

Menispermum Cocculus (Indian Berries).

The fruit or nut is the part used. It has a taste highly bitter and pungent. It is narcotic, and used against vermine.

DCCCXV.

8. Of the next order, Monodelphia, or plants whose male flowers are furnished with one set of united stamina, the articles are :

DCCCXVI.

Juniperus.

Maf ament. cor. nulla, stam. 3. Fœm. cal. 3-partius, cor. 3-petala, stil 3. bacca intesa, 3-sperma, calycina.

Juniperus Sabina (Common Savin).

The leaves are the part used. They have an acrid bitterish taste, with a goatish or rank smell. Their virtue resides in a copious volatile oil. They are stimulant, corrosive, emmenagogue, antispasmodic, diuretic, depilatory, and anthelmintic. They are used internally in chronic amenorrhœa in the form of powder, infusion, and decoction:

externally, in cataplasms, caries, tinea, psoa, fungous ulcers, warts, condylomata, and toothach. The dose of the powder is from 5 to 15 grains. The preparations are the distilled water, oil, and extract.

DCCCXVII.

Juniperus Communis (Common Juniper).

The berries, wood, and resin, are all used. The taste of the berries is aromatic and sweet, with a fragrant smell. Their virtues depend on a copious volatile oil and resinous principle. The qualities of the wood are the same, but in a less degree; and the resin possesses a strong resinous taste. These parts are all stimulant, diuretic, alterative, and carminative. The decoction and extract, though less stimulant, are more diuretic. All the forms are employed in dropsy, asthma, catarrh, and cutaneous diseases. The oil is used against worms. The dose of the powder is 1 scruple; and the proportion of the infusion is from 1 to 4 drams to 1 lb. of fluid. The various preparations are, a decoction, infusion, extract, rob, distilled water, volatile oil, and spirit.

DCCCXVIII.

Juniperus Lycia (Olibanum).

This gum resin is yellow and pellucid, with a bitterish taste and fragrant smell. It is employed in leucorrhœa, and for fumigations.

DCCCXIX.

Cissampelos.

Mal. cal. nullus, cor. 4-petala,
 Stam. 4. Fœm cal. nullus, cor.
 nulla, stig. 3. bacca 1-sperma.

Cissampelos Pareira (Pareira Brava).

The root of this South-American tree is the part used. Its taste is a bitter sweet. Its virtues are diuretic and alterative. It is employed in dysuria, urinary calculus, jaundice, gout, and pituitous diseases. Its form is the infusion, in the proportion of half an ounce to 2 lb., reduced by boiling to 1.

DCCCXX.

9. Of the next order, Syngenesia, or plants whose male flowers are furnished with stamina of which the antheræ are united, there is only one medical article.

DCCCXXI.

Ruscus.

Mal. cal. 6-phyllus, cor. nulla,
 Stam. 5. Fœm. cal. 6-phyllus,
 cor nulla, pist. 1. bacca 3-loc.
 2-sperma.

Ruscus Aculeatus (Prickly Butcher's Broom).

The root of this shrub is the part used. Its taste is a bitter sweet, like dulcamara. It is tonic, stimulant, and resolvent. It is given in abdominal swellings, cutaneous diseases, jaundice, and dropsy.

DCCCXXII.

Ruscus Hypoglossum (Double Leaved Butcher's Broom).

The plant is used, the quality of which is

astringent; and it is employed in laxity of the uvula.

DCCCXXIII.

CLASS XXIII. POLYGAMIA.

This class consists of such plants as bear hermaphrodite flowers, and also either male or female flowers, or both. The orders of this class are three.

DCCCXXIV.

1. The first, or Monecia, comprehends such plants as have the polygamy on the same plant, and the medical articles of this kind are:

DCCCXXV.

Veratrum.

Her. cal. nullus, cor. 6-petala,
 flam. 6. pist. 3 caps 3 Mas.
 cal. nullus, cor. 6-petala, flam. 6.

Veratrum Album (White Hellebore).

The root is the part used, the taste of which is acrid, saline, and bitterish, with a nauseous smell. It is drastically cathartic, emetic, emmenagogue, errhine, and vermifuge. Internally, it is used in dropsy, epilepsy, obstinate cutaneous diseases, mania, melancholy, dyspepsia, and quartan ague. Its form is that of powder, from 3 to 40 grains; in infusion, from 1 scruple to 3 drams to 1 lb. of fluid; in extract, the dose is from 2 grains to 1 dram, and the infusion in vinegar is 1 dram to 20. The antidote of this root is coffee.

DCCCXXVI.

Veratrum Nigrum (Black Hellebore).

The root is also used, and its qualities are the same as the former.

DCCCXXVII.

Veratrum Sabadilla.

The seeds and capsules are used. Their taste is bitter, acrid, and pungent. Their virtues are, drastically cathartic, diuretic, emetic, anthelmintic, and good against vermin. They are employed in doses of 2 grains, and so on progressively, according to the age of the child.

DCCCXXVIII.

Andropogon.

Her. glum. 1-flor. glum. basi arist.
stam. 3. stil. 2. sem. 1. Mas.
glum. 1-flor. glum. basi arist.
stam. 3.

Andropogon Nardus (Spikenard).

The fibres of the root are the parts used, which have an acrid bitterish taste, and fragrant smell. Their virtues are cordial and stomachic. They are employed in asthma and dyspepsia.

DCCCXXIX.

Parietaria.

Her. cal. 4-fidus, cor. nulla, flam.
4. stil. 1. sem. 1. Fem. cal. 4-
fidus, cor. nulla. stil. 1. sem. 1.

Parietaria Officinalis (Wall Pellitory).

The plant and root are both used. Its quality

is watery and insipid. It is reckoned cooling and diuretic, and employed in strangury and consumption.

DCCCXXX.

Mimosa.

Her. cal 5-dent. cor. 5-fid. Stam. 4-100. pist. 3. legum. Mas. cal. 5-dent. cor. 5-fid. Stam. 5-100.

Mimosa Catechu (Japan Earth).

The resinous gum is the part used. It possesses a bitterish, and afterwards sweetish styptic taste. Its virtue resides in a resinous astringent extract. Its virtues are tonic and astringent. It is employed in diarrhæa, atonic dysentery, and passive discharge of piles. Externally, in relaxed ulcers, especially of the gums and uvula, and in acrid catarrhal defluxions. Its forms are the powder; the dose is from 10 grains to 1 scruple; and in tincture.

DCCCXXXI.

*Mimosa Nilotica (Gum Arabic).**Mimosa Senegal (Gum Senegal).*

These gums, in their qualities, are mucilaginous, sweet, and nutrient. They are used internally in dysury, dysentery, hoarseness, ophthalmia, and where acrimony and irritation prevail. Their form is the watery solution or mucilage.

DCCCXXXII.

2. Of the order of Dioccia, or such as have the polygamy on two distinct plants, the articles are:

DCCCXXXIII.

Fraxinus.

Her. cal. o-f 4-part. cor. o-f.
4 pet. flam. 2 pist. 1. sem. 1.
Fœm. cal. o-f. 4-part. cor o-f.
4-pet. pist. 1. sem 1.

Fraxinus Excelsior (Common Ash).

The bark of the branches, the seed, and leaves, are all used. The bark is bitterish, the seed aromatic. The qualities of the bark are antiseptic; of the seed, diuretic. The bark is used in place of the cinchona in intermittents; the seed in gravel and obesity; the leaves in venomous bites.

DCCCXXXIV.

Fraxinus Rotundifolia, et alie Species, (Manna).

The saccharine juice, or manna, is the product from these species. In taste, it is nauseously sweet, its virtue residing in a saccharine mucilaginous principle. Its quality is eccoprotic, and employed against costiveness in children, from 1 scruple to 3; and in adults to 1 ounce.

DCCCXXXV.

Panax.

Her. umb. cal. 5-dent. cor. 5-petala, flam. 5. stil. 2. bacca 2-sperm. Mas. umbel. cal. integ. cor. 5-petala, flam 5.

Panax Quinquifolium (Ginseng).

The root is the part used. Its taste is grateful, and slightly aromatic. Its virtues are gently sti-

mulant and aphrodisiac. It is given from 1 scruple to a dram in impotence, asthenia, and atrophy.

DCCCXXXVI.

3. Of the last order of this class, Tricoecia, or such as have their polygamy on three distinct plants, the articles are :

DCCCXXXVII.

Ceratonia.

Her. cal. 5-partitus, cor. nulla,
 flam. 5. stil. 1. legum. coriacc.
 polysperm. Mas. cal. 5-partitus.
 cor. nulla, flam. 5. Fem. cal.
 sub. 5-dent. cor. nulla, stil. 1.
 legum. coriacc. polysperm.

Ceratonia Siliqua (St. John's Bread).

The fruit is the part used. It is sweet and mucilaginous. Its virtues are stimulant and expectorant. It is employed, in decoction, in hoarseness, acrid cough, and catarrh.

DCCCXXXVIII.

Ficus.

Recept. commune turbinatum, conniventi-clausum, carnosum. Fem. cal. 5-partitus, cor. nulla, pist. 1. fem. 1. Mas. cal. 3-partitus, cor. nulla, flam. 3. Mas et Fem. intra idem receptaculum commune, distinctis fructificationibus partialibus.

Ficus Carica (Common Fig Tree).

The fruit is the part used. It is sweet and mucilaginous. Its virtues are nutrient, emollient,

maturing, obtunding, expectorant, and eccoprotic. The decoction is given internally in hoarseness, cough, Poitou, colic, and costiveness. Externally, boiled in milk, or roasted, the fruit is applied in toothach, phlegmon, cynanche, bubo, and carbuncle.

DCCCXXXIX.

CLASS XXIV. CRYPTOGAMIA.

This class consists of such plants as conceal their fructification, having their flowers either within the fruit, or so small as not to be perceptible to the naked eye. The fructification in these is also uncommon in its structure. The orders of this class are four.

DCCCXL.

1. The first is the Filices or Ferns, comprehending such plants as are dorsiferous. Of this order, the medical articles are :

DCCCXLI.

Fructificationes Spicatæ.

Equisetum.

Spica spars.; fruct. peltatæ, b. valvulatæ.

Equisetum Arvense (Corn Horsetail).

The plant is used, which is astringent and diuretic. It employed in gonorrhœa, in all passive discharges, in consumption, and hematuria.

DCCCXLII.

*Fructificationes frondosæ in pagina inferiore.**Pteris.*

Linneæ marginis ad peripherium.

Pteris Aquilina (Female Fern).

The root is the part used, which is anthelmintic, and is given in powder to 1 scruple with honey.

DCCCXLIII.

Asplenium.

Linneæ disci subparallelæ, variæ.

Asplenium Cataract (Common Splenwort).

This plant has a slightly austere mucilaginous taste. It is used in cachexy.

All the other species of asplenium possess the same qualities.

DCCCXLIV.

Polypodium.

Functa disci distincte.

Polypodium Vulgare (Common Polypody).

The soft root of this perennial plant, the part used, has a taste sweet, somewhat nauseous, ending in a bitter. Its virtues are expectorant and eccoprotic.

DCCCXLV.

Polypodium Filix Mas (Male Fern).

The root, the part used, has a taste disagreeable, mucilaginous, and sweet, with some stypticity, and towards the end becoming bitter. It is anthelmintic, lactiferous, and emmenagogue. It

CLASSIFICATION.

347

is exhibited in tēnia, lumbrici, and rickets. The dose is 30 grains to 1 scruple to children; and from 2 to 3 scruples to adults.

DCCCXLVI.

Adiantum.

Maculæ apicū mārīne reflex.
obtectæ.

Adiantum Capellus Venerea.

This plant is chiefly used in making capillaire syrup.

DCCCXLVII.

2. The next order is the Musci, or Mosses.

DCCCXLVIII.

Acalyptaria.

Lycopodium.

Anthera 2-valvis, sessilis.

Lycopodium Clavatum (Common Club Moss).

The pollen, or flour, is used, which is of a dry quality, and employed in excoriations, and as a powder for covering medicines.

DCCCXLIX.

Lycopodium Seiazo (Fir Club Moss).

Its qualities are drastically cathartic, emmenagogue, and vermifuge. It is employed in dropsy, and against vermin.

DCCCL.

3. The third order of this class is the Algae, or Flags, which have their root, stem, and leaf, all in one.

CLASSIFICATION.

DCCCLI.

*Terrestres.**Lichen.*

Fr. receptaculo lævi nitido.

Lichen Aphthosus.

This plant is rank and mephitic. Its virtues are cathartic and anthelmintic. It is employed against worms and aphthæ. Its forms are the powder in doses of 12 grains, and also the decoction or infusion.

DCCCLII.

Lichen Caninus (Ground Liverwort).

This plant resembles the former in smell. Its virtues are alterative. It is employed in hydrophobia, mania, and convulsive asthma.

DCCCLIII.

Lichen Cocciferus (Cup Moss).

It grows at the roots of trees in pine woods. It possesses a taste slightly styptic; and is used in chincough.

DCCCLIV.

Lichen Islandicus (Iceland Liverwort).

It is bitter, somewhat astringent, and mucilaginous; but its bitterness is much destroyed by boiling. It is nutritive and eccoprotic, and employed in consumption, hemoptysis, and cough. Its proportions in decoction are half an ounce to 1 lb.

DCCCLV.

Lichen Plicatus.

This species is astringent, and used in hemorrhages.

DCCCLVI.

Lichen Pulmonarius.

This species has a bitter saltish taste, and is given in cough and jaundice.

DCCCLVII.

Lichen Roccella.

This is also saltish, slightly acrid to the taste, and of a red colour. It is used as a paint.

DCCCLVIII.

*Aquatica.**Conserva.*

A. capillaris.

Conserva Rivularis.

Its chief quality is, that it exhales, especially in winter, a great quantity of oxygen gas.

DCCCLIX.

Conserva Helminthochorton.

This plant possesses a nauseous saline taste; and gives out, in decoction, a great quantity of mucus. Its virtues are anthelmintic; and it is employed against lumbrici, in doses from 10 grains to 1 scruple. The proportion of its decoctions are 1 ounce to 1 lb. of fluid.

DCCCLX.

Fucus.

A corlacea.

Fucus Vesiculosus (Vegetable Ethiops).

The ashes are used. Its virtues are saline and alkaline. Calcined, it is given in bronchocele, and scrofula. Its doses are 1 scruple.

DCCCLXI.

4. The last order of this class are the Fungi, or Mushrooms.

DCCCLXII.

*Pileati.**Agaricus.*

Pileus subtus lame'losus.

Agaricus Muscarius.

This species is poisonous. Its virtues are cathartic and sudorific. It is given in epilepsy and palsy from retropelled diseases. Externally, the powder is sprinkled on malignant ulcers and gangrene. The dose of the powder is from 10 to 30 grains in vinegar.

DCCCLXIII.

Boletus.

Pileus subtus porosus.

Boletus Laricinus.

This species has a nauseous bitterish taste. Its virtue resides in an acrid resinous principle. It is drastically cathartic and emetic. Externally, it is applied to hemorrhages and ulcers.

DCCCLXIV.

Boletus Igniarius.

This species mechanically stops the blood in hemorrhages.

DCCCLXV.

Boletus Suaveolens.

This species has a sweet smell, and, when dried and beat in powder with a little alcohol, it is given in pulmonary consumption and spasmodic asthma. The dose is from half a dram to 2 drams.

DCCCLXVI.

Pileo destituti.

Peziza.

F. campanulatus.

Peziza Auricula.

This species is astringent, and used in the form of gargle and collyrium in angina and ophthalmia.

DCCCLXVII.

Lycoperdon.

F. globosus.

Lycoperdon Borista.

This plant is remarkably styptic; hence it is astringent and obstipating. It is exhibited in hemorrhages, piles, and ulcers.

DCCCLXIX.

Lycoperdon Tuber (Truffle).

This species has a goatish smell, is aphrodisiac, and employed for domestic uses.

DCCCLXX.

PALMÆ.

The last class, or rather an Appendix to his

Classification formed by Linnæus, is the Palmæ, or such plants as have a spadix and spatha; the medical articles of which are:

DCCCLXXI.

Pennatifolia.

Phœnix.

Dioica. Drup 1 sperma.

Phœnix Dactylifera (Date Tree).

The fruit of this tree has a sweet mucilaginous taste, and is nutritive and expectorant. It is employed in cough, hoarseness, and strangury.

DCCCLXXII.

Sagus (Sago).

Sagus Farinaria.

The flour of the pith is the part used. It is farinaceous, mucilaginous, and nutritive, and employed in consumption and dysentery.

DCCCLXXIII.

Cocos.

Cocos Butyracea } *Palm Oil.* }
Cocos Nucifera }

The fixed oil of the fruit is used. It possesses the same qualities as other fixed oils, and is employed in all cutaneous affections of inflammation or pain.

Lately Published,

By T. N. LONGMAN AND O. REES,

PATERNOSTER-ROW.

1. **THE ANATOMY** of the **HUMAN BODY**; in two volumes. Vol. I. containing the Anatomy of the Bones, Muscles, and Joints; vol. II. the Anatomy of the Heart and Arteries; with numerous Engravings. By JOHN BELL, Surgeon. Royal octavo. Price 1l. 10s. in boards.

The first Part of vol. III., containing the **ANATOMY** of the **BRAIN**, and Description of the **COURSES** of the **NERVES**, is just published, price 7s. 6d. boards; and the second Part, containing the **ANATOMY** of the **EYE** and **EAR**, is in forwardness.

2. **ENGRAVINGS** of the **ARTERIES**; illustrating the second volume of **The ANATOMY** of the **HUMAN BODY**; by JOHN BELL, Surgeon; and serving as an Introduction to the Surgery of the Arteries. By CHARLES BELL, Surgeon. Superbly printed in imperial octavo, and beautifully coloured. Price 1l. 1s. in boards.

3. **The PRINCIPLES** of **SURGERY**; volume the first, as they relate to Wounds, Ulcers, and Fistulas; Aneurisms, and Wounded Arteries, Fractures of the Limbs, and the Duties of the Military and Hospital Surgeon. By JOHN BELL, Surgeon. In one large volume, royal quarto, illustrated by eighty engravings, many of them accurately coloured from nature. Price 4l. 4s. in boards.

The second Volume of this Work, which contains the Operations of Surgery, will be speedily delivered to the Public in Numbers — Number I. On Lithotomy, will not be limited to that operation solely, but will be divided into parts:

1. Drawings of the Anatomy of the Viscera of the Pelvis, with Practical Observations on their structure and relations to each other.
2. Observations on the Introduction of the Catheters, and on the various ways of puncturing the Bladder.
3. The History of Litho-

Lately Published by LONGMAN and REES.

some, with marginal Drawings, representing the various incisions practised by the most celebrated Operators. 4. Plain Rules for performing the Operation.

4. **OBSERVATIONS on the MEDICAL and DOMESTIC MANAGEMENT of the CONSUMPTIVE; on the Powers of Digitalis Purpurea; and on the Cure of Scrophula.** By THOMAS BEDDOES, M.D. Price 7s. in boards.

5. **ESSAY on the CAUSES, EARLY SIGNS, and PREVENTION of PULMONARY CONSUMPTION.** For the Use of Parents and Preceptors. The Second Edition, much enlarged. By T. BEDDOES, M.D. Price 6s. in boards.

6. **CONTRIBUTIONS to the PHYSICAL and MEDICAL KNOWLEDGE,** principally from the West of England. Collected by THOMAS BEDDOES, M.D. Price 8s. in boards.

7. **MEDICINA NAUTICA; an Essay on the Diseases of Seamen; with an Appendix, containing Communications on the New Doctrine of Contagion and Yellow Fever by American Physicians; transmitted to the Admiralty by Sir John Temple, Baronet, his Majesty's Consul General.** By THOMAS TROTTER, M.D. Member of the Royal Medical Society, Honorary Member of the Physical and other Literary Societies of Edinburgh, and Physician to the Fleet. Vol. II. Price 7s. in boards.

8. **PRACTICAL OBSERVATIONS on the DISEASES of the ARMY in JAMAICA,** as they occurred between the Years 1792 and 1797; on the Situation, Climate, and Diseases of that Island; and on the most probable Means of lessening Mortality among the Troops, and among Europeans in Tropical Climates. By W. LEMPRIERE, Apothecary to his Majesty's Forces. In two vols. octavo. Price 13s. in boards.

9. **OBSERVATIONS on the CANCEROUS BREAST.** Consisting chiefly of original correspond-

Lately Published by LONGMAN and REES.

ence between the Author and Dr. Baillie, Mr. Cline, Dr. Babington, Mr. Abernethy, and Dr. Stokes. Published by permission of the Writers; with an Introductory Letter to Mr. Pitcairn, and a Letter from Mr. Blair. By JOSEPH ADAMS, M.D. of the Royal College of Physicians, and Physician in the Island of Madeira; Author of "OBSERVATIONS ON MORBID POISONS." In octavo. Price 3s. 6d. sewed.

10. **THE PHARMACOPŒIA; or, THE ROYAL COLLEGE OF PHYSICIANS OF LONDON**, translated into English; with Notes, Indexes of new Names, Preparations, &c. &c.; by THOMAS HEALDE, M.D. F.R.S. Lumleyan Lecturer at the College of Physicians, and Senior Physician of the London Hospital. The eighth edition, revised and adapted to the improved edition of the College; with an Index, shewing the general Doses of Medicines. By JOHN LATHAM, M.D. Fellow of the Royal College of Physicians, Physician to the Magdalen, and to St. Bartholomew's Hospital. Price 6s. in boards.

11. **LECTURES on DIET and REGIMEN**; being a systematic Inquiry into the most rational Means of preserving Health and prolonging Life; together with Physiological and Chemical Explanations, calculated chiefly for the use of families, in order to banish the prevailing abuses and prejudices in Medicine. In one large volume, octavo. By A. F. M. WILLIAMS, M.D. The third edition, considerably enlarged and improved. Price 9s. in boards.

CONTENTS OF THE WORK:

Introduction, or a general view of the whole work, and its practical tendency — Chap. I. On the means of preserving Health and prolonging Life. — II. Of Air and Weather. — III. Of Cleanliness. — IV. Of Dress. — V. Of Food, Drink, and Spices. — VI. Of Exercise and Rest. — VII. Of Sleeping and Waking. — VIII. Of Evacuations. — IX. Of the Affections and Passions of the Mind. — X. Of the Organs of Sense. — XI. On the Treatment and Preservation of the Eyes. — Conclusion, recapitulating useful Precepts.

N. B. — Among a variety of new subjects, the present edition contains a concise investigation of the following, viz. Arrow Root —

Lately Published by LONGMAN and REES.

Artichoke—Beet Root—Cow Pox—Consumption—Exercise—
Game—Lobster—Manna Grass—Metallic Tractors—Oil—Olives
—Salt—Small Pox—Tamarinds—Vinegar, &c. &c.

To which is added, a Postscript, containing a series of queries,
addressed to those patients who are anxious to give an accurate and
satisfactory account of their disorders when consulting medical men.

12. A DESCRIPTION of the ARTERIES of the
HUMAN BODY, reduced into the *Form of Tables*, by
ADOLPHUS MURRAY, M. D. Professor of Anatomy
and Surgery at Upsal. *Translated from the Latin*, under
the inspection of JAMES MACARTNEY, Lecturer upon
Comparative Anatomy and Physiology at St. Bartholo-
mew's Hospital, &c. &c. In one volume, 8vo. Price
4s. in boards.

"Professor Murray has here presented us with an accurate, per-
spicuous, and comprehensive view of the arterial system, traced
through all its ramifications, from the aorta to the extreme parts of
the body. This excellent Compendium has afforded much assistance
to our latest and best writers on the distributions of blood-vessels, but
has certainly not been equalled by any similar work in the English
language."

London Medical Review, May, 1801.

13. ELEMENTS of CHEMISTRY and NATU-
RAL HISTORY. To which is prefixed, The Philo-
sophy of Chemistry, by A. F. FOURCROY; Fifth Edition,
with Notes. By JOHN THOMSON, Surgeon, Edin-
burgh. In Three large Vols. Royal Octavo. Price
1l. 11s. 6d. in boards.

"This edition has a claim to our attention, on account of the
notes which have been added by the editor; and which we have in-
deed perused with much pleasure. Mr. Thomson has not, like
many editors, contented himself with giving the text of his author,
with only a few superficial remarks; on the contrary, he has added
many copious and valuable notes to each chapter, the selection and
number of which discover much judgment, and considerable extent of
chemical reading. By these notes, also, this edition has in a great
measure been made to keep pace with the rapid progress of chemical
science, since the publication of the original work. The notes of the
animal kingdom, Part IV. are particularly instructive and interesting.
The same may indeed be said nearly of the whole; and we have no
doubt that this edition will be found highly useful to chemical
students."

Monthly Review, Dec. 1801.



Printed by A. Strahan,
Printers-Street, London.

D18
1 100000 2000 100000 100000 100000